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THE ELEMENTARY SCHOOL TEACHER
AND
COURSE OF STUDY

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SYLLABI OF COURSES IN THE SCHOOL OF EDUCATION, SUMMER QUARTER, 1902.

APPLIED PEDAGOGY.

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THIS course consists of a series of discussions on the school as community life.

Education is the all-sided growth of the individual, physical, mental, and moral. Community life is the ideal of education, because it is the only ideal great enough to provide for this all-sided development of the individual.

Community life is that state of society in which every individual member orders his conduct with reference to the good of the whole; the whole being so constituted as to necessitate the highest development of its members. — *Colonel Parker.*

I. Organization of school life on a basis of —

1. Work — doing things for which the pupils feel a social need, as: (*a*) Gardening; cooking; working in wood and metal; clay-modeling; sewing; weaving; bookbinding; printing; photography. (*b*) Housekeeping, sanitation, and ventilation; care of grounds and neighborhood; decoration of school building. (*c*) Social entertainments; recognition of child's interests and emotions; parties; morning exercises; glee clubs; plays and games; observance of special celebrations, such as Christmas, Thanksgiving, Decoration Day, Valentine's Day, including the making of Christmas and birthday presents.

2. The study of human activities in the outside world which help children to interpret their own experiences through (*a*) industrial excursions; (*b*) news-

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papers, books, periodicals, and pictures; (*c*) municipal government (in its largest sense); (*d*) civic and social life of the city.

3. The study of nature, through (*a*) field excursions, to give opportunity for contact with nature, to arouse and answer questions; (*b*) care of animals

II. The curriculum.[1]

I. GRAMMAR GRADES.

1. *History and civics.* — Use of history in studying the present social conditions. What history shall be selected for study? Industrial history; political history. At what age are pupils interested in it? Its relation to social and industrial life. Civics as an aid to self-government. Current events. Excursions, social and industrial, how to conduct them. Use of the information gained and the material collected. The stereopticon. Relation of geography to history.

2. *Science.* — Different aspects of this subject. Observation of nature; purpose. The landscape. Relation of reading to observation. Inferences. Study of the applications of science in the industrial arts of the community. Management of the class: (*a*) In the field: preparation; number of pupils in the class; order; use of material collected; expression. (*b*) In the laboratory: purpose and place of laboratory work; grouping; directions; amount of noise in laboratory; care of laboratory.

3. *Geography.* — Influence of topographic environment upon life. The evolution of that environment. Political geography. Commercial geography. Field work. Use of pictures. Maps. Sand and chalk modeling.

4. *Home economics.* — The study of the house and its evolution. Care of the home: plumbing, heating, ventilating, and lighting. Food: selection, preparation, and cost. Home relations.

5. *Literature and reading.* — What determines the selection for study. Oral reading. Effect of dramatic reading: (*a*) upon thinking; (*b*) upon the emotions; (*c*) upon acting. Dramatization of stories. Morning exercises. Special exercises — Thanksgiving, Christmas, Washington's birthday, Decoration Day, Commencement.

6. *Mathematics.* — Some results of number teaching. Some defects in teaching. The application of number to history, geography, nature study; teaching correlated number. Geometry in the industrial arts. Generalized number. To what extent can mathematics be correlated in the grammar grades?

7. *Music.* — A means of self-expression. Choice of songs. Notation; how introduced; with what motive. Scale relations and melodies.

[1] In this outline the topics for discussion have been grouped together for convenience, but in the presentation the modes of study and expression — reading, writing, drawing, etc. — will receive equal attention throughout the course with such subjects as geography, nature study, and history.

8. *Physical training.* — Does the body indicate normal development for age? Laws of growth and development. Characteristics of adolescence. Physical habits; standing position; position of body for reading, writing, and singing. Condition of sense organs. School hygiene: seating, lighting, heating, and ventilating. School diseases. Defects, mental, moral, and physical.

9. *Expression.* — Necessity for expression. Effect of expression. The modes of expression; painting, drawing, making, modeling, music, oral reading, speech, writing. Value of each. Acquirement of skill. Place of drill. Penmanship. Economy of effort. Preparation and care of materials used. Management of painting and drawing exercises.

II. PRIMARY GRADES.

1. *History.*— Life and interest of the children the determining guide in the work. Work of a year outlined and discussed: (*a*) meaning of the home to children, its comforts, etc.; (*b*) construction by children of simple models of a house which would protect them in each season; (*c*) comparison of their work with that of other peoples — Indians, Eskimos, Pilgrims, etc.; (*d*) influence of environment upon the life and work of a people.

2. *Literatures.*— (*a*) The selection, adaptation, and telling of stories; (*b*) the place of myths and fairy-stories in a course of study; (*c*) discussion of a suggested list of stories told in connection with nature study, history, geography, etc.; (*d*) basis of the selection of such stories; (*e*) effect of good literature upon speech and written expression; (*f*) its intellectual reaction upon observation. Stories of industry and invention. Necessity precedes invention, and these stories are given when the children have made sufficient observation to enable them to understand the invention. Stories which embody ideals of courage, generosity, patience, strength, wisdom, unselfishness, kindness to animals, are selected, for the reason that the children imitate what they admire, and for the unconscious influence thus exerted upon character.

3. *Domestic science and arts.*— (*a*) Value of the primitive industries and arts in the early education of children; (*b*) the importance of simple work in school economics, sanitation, and hygiene in establishing an ideal of the primary conditions of good health in a community; (*c*) cooking, sewing, and making in wood, discussed from an educational point of view; (*d*) the necessary correlation of such work with the central subject of study; (*e*) discussion of the necessary equipment and illustrations of the kinds and cost of materials used in various schools.

4. *Nature study.*— Discussion of outlines in nature study, illustrated by the experiments and expression of the children in the primary grades. (1) Subject-matter: (*a*) fitted to bring children into contact with nature's phenomena. (2) Subject-matter: (*a*) relating to the necessities of life — food, air, water, hygienic living, etc.; (*b*) relating to the industrial arts of the community; (*c*) relating to the æsthetic development of the children.

(3) Expression; relation of reading and writing to such study. (4) Necessity of number (illustrated by work with the children). (5) Field trips; considered as the foundation of work in the schoolroom; (*a*) use of experiments; (*b*) study of types of landscape in the vicinity — swamp, lakeshore, dunes, etc.; (*c*) purpose of such study.

5. *Number.*—(*a*) Its place in the life of a child; (*b*) discussion of the number required for clear imaging in nature study, geography, and history; (*c*) the teaching of processes and arithmetical facts to little children; (*d*) the place of drill; (*e*) outline of a year's work in number with a class of primary children.

6. *Seat-work.*—(*a*) Essentials; kinds of work which arouse the best independent efforts of the children; (*b*) standpoint of criticism; (*c*) choice of material; (*d*) discussion of a detailed outline of seat-work for a year; (*e*) the probable results in habits, taste, knowledge, and skill; (*f*) discussion of models made by the children.

NOTE.— The teachers will be given an opportunity to make any or all of these articles — books, boxes, envelopes, tools, and apparatus — under the direction of the manual-training department.

7. *Reading.*—(*a*) Its purpose; (*b*) methods of teaching reading compared; (*c*) relative value of oral and silent reading in the schoolroom; special function of each; (*d*) mechanics of reading; teaching new words, and words the meaning of which it is not easy to make clear, such as connectives and some adjectives and pronouns; necessary repetition of words; use and place of phonics; use of the dictionary; (*e*) preparation of a good reading lesson; (*f*) discussion of typical reading lessons; reading for comparison of observation and experience, for information, for delight in expression; (*g*) the place and purpose of a reading recitation, or lesson upon the daily school program; the final test of a good reading lesson.

8. *Expression.*—(*a*) Value of the various modes of expression in a child's development; (*b*) the reason for choice — from the child's standpoint, from the adult's; (*c*) relation between a child's oral and written vocabulary; (*d*) economy in the teaching of language, spelling, grammar, punctuation, and capitalization; (*e*) methods of teaching writing compared; (*f*) comparison of the purpose and basis of this form of expression with those of drawing, painting, modeling, and dramatic action; (*g*) necessity and place of drill, and direction in all expression work; (*h*) the influence upon children of songs, games, gymnastics, manual training, and dramatization of stories; effect of artistic surroundings.

9. Final discussion of courses of study for the primary grades. Values compared: (*a*) the ideal of the teacher; (*b*) the governing motive of the children; (*c*) the self-activity exercised by the children; (*d*) the kind and quality of expression necessitated; (*e*) the habits established by the work; (*f*) the intrinsic value of the subject-matter; (*g*) the results in knowledge;

(*h*) the results in skill; (*i*) the amount of drill required, etc.; (*j*) the recognition and treatment of natural fatigue and of temporary weakness; (*k*) the recognition and treatment of physical, mental, and moral defects; (*l*) the recognition and treatment of the child's individual interests and marked peculiarities.

III. School management.

1. The daily program: Should it be flexible or fixed? Grouping of pupils. Basis of promotions.

2. Order: What it is. Its relation to the ideal of education. Self-government. How far is it possible? Liberty *versus* license. Relation of privilege to responsibility. Relation of school democracy to national democracy. Is a democratic school organization for purposes of government advisable?

IV. Relation of school to organized society.

PEDAGOGY OF THE KINDERGARTEN.

BERTHA PAYNE.

THERE is, undoubtedly, great need of unifying the work of the kindergarten and the primary teacher. This need becomes greater as kindergartens multiply within the limits of the public school system. In spite of all that has been said on this subject during the past few years, a tour of visitation reveals the fact that the unification is yet far from being realized. The claim of the kindergarten is that it stands for certain definite principles that should obtain in all education. The consciousness of the possession and use of these truths by the kindergartner is in danger of isolating the kindergarten and putting the kindergartner in a class by herself, unless she looks into the work to be done just beyond her own sphere and tries to understand its meaning and its methods. To the primary teacher looking backward is equally helpful. The ideal training for each is to include practice above and below, and not preparation for work within one narrow limit.

The purpose of this course is to enable the students to take a view of both grades in perspective; to see the growing child both in the kindergarten and the grades; to ascertain the change in treatment demanded by a larger development of powers and interests; to follow the adaptation of subject-matter; and to

trace the application of Froebelian principles both in kindergarten and grades.

The first topic discussed will be the question of subject-matter and its relation to the children of the kindergarten and the first and second grades. What lies for each within the fields of the central subjects of history, geography, and science?

For convenience, the activities of the kindergarten will be grouped for discussion as follows: gift work, occupations, constructive work, games, songs, stories, nature study, and housekeeping.

The adjustment of these activities to the needs of the children requires a special study, which will be made under the head of program-making. This adjustment necessitates child study, which in turn will be undertaken by reviewing some studies that have been made, suggesting others that may be made, and comparing these with Froebel's teachings in the *Education of Man*, and with notes made in his autobiography and letters. *This latter work will be carried on especially with those who register for the entire quarter.*

Some special talks, or round-table conferences, have been arranged for those who desire to discuss problems connected with training of teachers and with supervision.

Gift-work.— 1. Froebel's idea of the use of educative play materials: (*a*) evolution of material in complexity of form and number suited to the development in the children of perception, judgment, and control; (*b*) presentation of typical characteristics; (*c*) illustration of general laws of continuity, sequence, etc.

2. Sequence from the standpoint of logic, and sequence from the standpoint of the natural movement of a child's mind. Does the following of either of these two ideas of sequence result in the same development?

3. The "symbolism of the gifts" discussed.

4. Some phases of work and play necessitated by children's varying need of freedom and direction. Free play, imitation, suggestion, invention within limits, and dictation, illustrated.

5. Comparative values of building and designing for little children. Does the desire for conventional design, apart from anything to be decorated, have a large place in the kindergarten, and, if so, why? The limitations of representations of the real with sticks, rings, tablets, and lentils.

6. Discussion of illustrative use of material.

7. Discussion of work seen in the kindergarten and grades of the Model School.

Occupations.— 1. Review of Froebel's occupations and their gradual development in his scheme of infant training.

2. Ultimate conception of them: (*a*) furnish an initial step in the child's identification of himself with the industries of the world; (*b*) as a continuous training in working over ideas of form and number and color into new symmetric combinations.

3. The predominance of one or the other of these two conceptions marks a separate school of thought and practice.

4. How can real tests be found for the efficacy of these occupations and of the additions that are being made to them? Some suggestions are tabulated as follows: (*a*) physical effect; (*b*) reaction on image growth; (*c*) need felt by children for the particular form of expression; (*d*) industrial relationship; (*e*) æsthetic reactions.

5. Discussion on the question of use of "Schools of Work" in the kindergarten and training school.

6. Suggestions for work in wood, pottery, and textiles.

Games and plays.— 1. Distinction between plays and games.

2. Evolution of games as children develop: (*a*) activity for activity's sake; (*b*) holding a definite end to be reached; (*c*) growing complexity of mode by which end is reached; (*d*) competition.

3. Elements of interest: form, repetition, rhythm, concerted action, surprise, suspension, climax.

4. Historic evolution of games. Games of other nations and races, and their function.

5. Dancing games, rhythmic and gymnastic games, and appropriate music.

6. Dramatic plays: (*a*) nursery finger plays; (*b*) plays in which familiar experiences are represented; (*c*) illustration of stories; (*d*) dramatization of natural phenomena; (*e*) the initiative in plays.

7. Discussion of plays and games presented by students for criticism.

8. The principle of play throughout the school.

Stories.— 1. Evolution of the story with the enlargement of experience and gain in power of concentration.

2. Nursery rhymes—"Mother Goose;" nursery jingles of all races. Elements of repetition and rhythm. Story of a child's own doings.

3. Dramatic events. Sequence of events without causal relations. Sequence with appreciation of cause and effect.

4. The stories that have lived, and their fitness at various stages of growth. Grading of stories.

5. Tests of good stories for little children.

6. Typical stories for the kindergarten from fairy tale, myth, legend, history, and children's real experiences.

7. Reading to children and story-telling.

8. Bibliography.

Songs.— 1. Elements of a good song for little children: (*a*) purity and variety in melody and accompaniment; (*b*) beauty of idea in text; (*c*) agreement between text and music; (*d*) fitness for the compass of a child's voice.

2. Typical songs sung and discussed.

3. Nature of a child's voice.

4. Use of the piano.

5. Growth of imagery through listening and singing.

6. Treatment of tone-deaf children.

Nature study.— 1. Essentials to be held in view in planning nature work for the kindergarten and the first grade. Two conditions to be secured: (*a*) familiarity with certain objects, phases, and phenomena of nature; (*b*) directed observation of particular events with experiment and further observation, direct tracing of effect to causes, and *vice versa.* The latter condition is at a minimum with the youngest group and steadily advances in importance as the children develop.

2. Choice of subjects for directed study. How shall it be determined? (*a*) phenomena must be familiar, yet must hold some point of newness in appearance, or suggest a question; (*b*) some need should be served by the solution of the question, if possible; (*c*) transition from cause to effect; (*d*) the relation between effect and cause should be within the children's grasp without too long a series of experiments.

3. Two factors of importance in nature study: time, and opportunity for doing.

4. Aquaria, pets, gardens, and the opportunities they furnish for care, experiment, and wonder.

5. Seasonal changes and their meaning for kindergarten children.

Program-making.— 1. Principal modes in vogue of correlating subject-matter for the kindergarten for the year and month.

2. Compare with the modes used in the first and second grades. What seems to be the difference? What should be the difference? The states of the growing mind and body should condition all change of treatment and enlargement of subject-matter. Study of interests, and of power of control or manipulation of ideas will reveal the chief grounds for diversification between kindergarten and first grade.

3. Three typical bases are found in the following: (*a*) the songs found in Froebel's *Mother Play Book;* (*b*) leading thoughts, as lights, or giving; (*c*) the seasons and the changes they bring.

4. Does the review, in play, of home activities furnish a large enough center? Will it include a full measure of the ideal, the æsthetic, and the ethical? Does the common life of the children in the kindergarten furnish opportunity for work and service that is a desirable addition to plays and

games? Have cooking, sweeping, dusting, and other forms of work a reason for being in the kindergarten?

5. Should the teaching of form, number, color, and design be made subservient to the accomplishment of real or playful ends in which accomplishment problems are met that must be mastered, problems involving knowledge and use of facts of form, number, etc.

6. Typical programs to be worked out and presented for suggestion and criticism.

Child-study topics.—(1) The growth of motive. (2) Evolution of moral control. (3) Reasonings of children. (4) Typical interests of three-year-old and six-year-old children studied through their manual expression. (5) Typical interests of three-year-old and six-year-old children as found in their plays. (6) Children's lies. (7) Children's fears. (8) Co-operation in play. (9) Religious instincts. (10) A kindergartner's bibliography of child study.

NATURAL SCIENCE.

NATURE STUDY.

WILBUR S. JACKMAN.

IT will be the aim in this course: (1) To make the student familiar with the organization of the landscape through a series of studies in the field. (2) To make a detailed study of the materials observed and collected on the field trips. This will be done chiefly indoors, (*a*) by means of experiments in the laboratory, and (*b*) through the use of the collections in the school museum. (3) To show the adaptations of this study to the various stages of child growth as represented in the grades. (4) To show the relation of nature study to other subjects in the curriculum; namely, to history, literature, geography, number work, and all the arts—painting, drawing, modeling, making, reading, and writing. (5) To consider the proper forms for records which should be kept by the pupils who are engaged in nature study. Many of these points will be illustrated by work done by pupils in the Model School.

The lessons will be based upon a study of the landscape as an organism. It will be considered, first, as a whole, and then through each of its most important related parts. The study, therefore, will be an effort to determine the function that each portion of the landscape performs as a member of the whole, and

to discover, as far as may be, the relationship of function to form. The lessons, consequently, will be included in the following groups:

I. A general survey of nature.

Living. Non-living. Interrelations of each. The phenomena of change. Development. Decay. Color. Form.

II. Plants.

Their function; function of different parts; illustrative experiments. Form as a whole and in each part. Constituents of plants; of different parts; laboratory work. Work of the plant; application of number work.

III. Animals.

Adaptation to environment; illustrated by a study of birds. Relation of form to function; illustrated by a study of the earthworm and the frog. Mechanics of animal life.

IV. Non-living nature.

(1) Physical aspects: Sunshine; its distribution. Effects of light and heat, diurnal and seasonal. Variation of sunshine; means of measuring; effects upon the atmosphere. Meteorology; appropriate records. Water in nature; vapor, clouds, rain, dew, frost, snow; appropriate measurements and means of concrete representation. Study of instruments of precision. (2) Soils: their structure and constituents; origin; nature of the various elements. Relation to plants; to animals. Laboratory experiments. Properties of minerals.

V. Historic aspects of nature.

Study of fossil plants and animals — ferns and fishes; what these ancient forms imply in world history. Ancient landscape pictures. Evidences of world changes at the present time.

VI. Pedagogic aspects of nature study.

Relation to history and literature; to number, reading, and writing. Expression through color — painting, drawing, modeling, and making.

VII. Nature study and training.

What is true observation? Observations of children compared with those of adults. Evils resulting from a lack of training in observation. The use of the imagination in nature study; necessary conditions; its relation to observation. Relation of nature study to the development of the will. The discovery and appreciation of law; its universal application. Nature study as a factor in character-building.

For detailed directions for laboratory work *Nature Study for the Grammar Grades* (Jackman) will be used.

ELEMENTARY FIELD WORK.

IRA B. MEYERS.

The field work in science for the summer quarter is a general study of the type-topographic areas of the Chicago region. The work is based upon a series of excursions to the lakeshore, lagoon and marsh area, sand dunes, ravine area (glacial till), ravine area (limestone), stream valley, etc. The study will include two considerations: (1) The investigation of each of these several areas with a view of becoming acquainted with their inorganic and organic content: mineral makeup; distribution of moisture; climatic influences; plant and animal life. (2) Field work in relation to grade teaching: aims and methods in field work; collecting materials and data; care and arrangement of materials and data for class study; collected materials as permanent equipment (the school museum).

Suggestions in field work.— Elementary education must be thought of in terms of development. Environment is recognized as a potent factor in all organic, intellectual, or social development; that the same general environment varies greatly in its influence on the residents of a region requires no argument. Interwoven with the study of materials, phenomena, and processes in all field work, topographic and industrial, is the more important study of that interrelation of the human being to environment which stimulates him to intelligent thought and action. Variation (change) is the starting-point of progress in the organic and social world. An area viewed as "everlasting hills" and never-changing valleys can have little influence as a stimulus in intellectual development. The same area, viewed as an ever-changing landscape, rendering necessary a constant readjustment of its plant and animal life, becomes infinite in its possibilities as a stimulus to thought and action. Every type of area may thus be looked upon as a unit of environment. Our problem is to bring ourselves into such relation to these units of environment that their latent possibilities may become potent influences in our lives.

The field study is from the standpoint of topographic change and the influence of this change upon the occurrence, form, and distribution of plant and animal life.

General directions.— Topography (for a detailed study of topography see Geography outline): Note the contour topography of the areas crossed and studied. The superficial materials of the several areas; their mineral make-up; conditions under which this material entered the area. Toward what land contour are these separate areas tending? What forces are most active in the development of this contour? Are these forces constant or variable?

Plant life.— Note the general distribution of the vegetation in each of these areas; bird's-eye-view appearance of the area as to marsh, meadow, thicket, and woodland; the conditions determining or influencing this distribution. Make a list of the dominant plants in each area, that give the area its characteristic appearance.

Animal life.— Keep a list of the forms of animal life seen in each of these areas. Also note any signs of animal life — tracks, burrows, calls, etc., where the living form is not actually seen. Observe as fully as possible the movement, food, and feeding habits, methods of foraging, protection, etc., of these animals.

CONDITIONS INFLUENCING THE PLANT LIFE OF A REGION.

During their growth and distribution plants are dependent upon certain conditions of temperature, air, moisture, light, and soil; variation in the nature and intensity of these factors greatly influence the plant life. The aim of field work is to observe conditions under which life exists, and to note the influence of these varying factors upon its occurrence, form, distribution, characteristics, and life-history.

1. *Soil conditions.*— (*a*) Nature of the soil in the various areas visited. (Collect samples and examine them. See *Nature Study for Grammar Grades*, by Jackman, p. 45.) (*b*) The part of the plant most closely related to the soil. (*c*) Soil conditions, physical and chemical, influencing plant growth. (*d*) The nature and cause of this influence. Examine plants with a view of determining depth of rooting, length of roots, whether thick or fibrous. Try to determine the conditions causing variation. Collect various soils for planting seeds, varying the compactness and moisture conditions of the soils, and noting the influence on the growing plants.

REFERENCE: King, *The Soil.*

2. *Temperature.*— Consider: The part of the plant most influenced by temperature during the heat of the summer. Conditions of plants at this season that may be attributed to the heat. The nature and cause of these heat influences. Are these conditions sufficient to account for the presence of prairies?

NOTE.—The influence of temperature on plant life is best studied in the spring and late fall. This phase of study must depend largely upon observations made during these seasons of the year.

3. *Light.*— (*a*) Consider the daily and seasonal variations in the light conditions of an area. (*b*) The part of the plant most intimately related to light. (*c*) The nature of the light influence upon plant growth and structure. (*d*) Variations in plant form and structure which may be considered as a response to the light stimulus. (*e*) Make a special study of the plant stem,

form of top, arrangement of branches and leaves, in their relation to light. (Experiments on growing plants under varying light conditions, a study of the light influence on plant color and the accumulation of plant material.)

Moisture.—(*a*) Variations in the moisture content of the soils of the several areas. (Make an examination as directed in Jackman, *Nature Study for Grammar Grades*, p. 48.) (*b*) Parts of the plant intimately related to moisture, securing it, controlling its distribution through the plant. (*c*) Variations in plant structure and plant form that may be attributed to a variation in the moisture conditions. (*d*) Plant societies; their physiognomy as influenced by the variation of moisture. (Special experiments on plant transpiration, its control, the response of the root of plants to moisture stimuli.)

Plants as influenced by surrounding plants.

The interrelations of plant and animal life.

ANIMAL LIFE.

GENERAL OBSERVATIONS: Forms found in each topographic area: Dominant forms. Occasional forms.

1. *Range.*—(*a*) Forms unrestricted in their range. (*b*) Forms restricted to a particular part of the area. (*c*) Forms present because of a particular physiographic condition—permanent residents. (*d*) Forms attracted by seasonal food—temporary residents.

2. *Movement.*—Demands for movement; range; factors influencing movement. Organs of locomotion. (*a*) As adaptations to different media—land, air, water. (*b*) As affected by some peculiar aspect of the same medium. (*c*) As affected by some peculiarity of habit.

3. *Food.*—(*a*) Condition or nature of food—liquid or solid. (*b*) Character of food—vegetable, animal, mixed. Food, vegetable; locating food; kind of plant; part of plant; effect of injury upon plant; plants attempt to resist undue injury; length of time food is available and relation to life of animal. Food, animal: method of locating and capturing food. Influence on foraging habits of the animal.

4. *Protection.*—(*a*) Adaptations which enable individuals to maintain their position among these various forms. (1) Life-forms living in areas inaccessible to other forms. (2) Specially constructed homes or shields. (3) Special protective organs. (4) Secretions. (5) Cunning and swiftness. (6) Color protection. Without visible means of protection. (*b*) Adaptations enabling individuals to resist seasonal changes.

5. *Homes.*—(*a*) Living isolated in pairs, in colonies, animal societies. (*b*) Living in constructed homes. (*c*) Depending upon accidental shelter of holes, crevices, etc. (*d*) Changing growing vegetation into homes—galls. (*e*) Songs, calls, etc.; purpose, methods of producing sound.

SPECIAL STUDIES.

A special study of our common animals, birds, batrachians, and mammals; their occurrence and habits as influenced by the conditions of their

environment. Animal life in the schoolroom. The school museum in its relation to field work and class-room study.

NOTE.—Students should provide themselves with a small handbag, gamesack, or basket, wide-mouth 8-ounce bottle, etc., for collecting materials for schoolroom and experimental work.

REFERENCES: Salisbury and Alden, *The Geography of Chicago and its Environs;* Cowles, *The Plant Societies of Chicago and Vicinity;* Jordan, *Animal Life;* Coulter, *Plant Relations;* Comstock, *Insect Life;* Chapman, *Bird Life;* Jackman, *Nature Study for Grammar Grades;* Hodge, *Nature Study and Life;* "North Shore Area," THE ELEMENTARY SCHOOL TEACHER AND COURSE OF STUDY, Vol. II, No. 3. (See also "Primary Mathematics," *ibid.*, Vol. II, No. 1.)

BEACH-POND-PRAIRIE AREA.

(Seventy-first street and the lakeshore. Illinois Central train to south shore.)

IRA B. MEYERS.

The conditions giving rise to a pond topography are varied. In the Chicago area three distinct origins may be recognized, each of which will be treated in its special area. (1) Pond formed by a sand-bar or beach line separating a portion of water from the main lake body; the first stage in this separation may be observed a short distance south of Edgewater; a second and a third stage may be seen in the area at Seventy-first street and the lakeshore. (2) Ponds formed by cut-offs in a stream; this is well developed along Thorn creek, between Thornton and Glenwood. (3) Ponds formed in the depressions on the irregular surface of the old glacial moraine, characteristic of the north shore area.

In each of these origins we recognize that there must have been a difference at the initial stages in the soil, water, and climate environment of each area, and that owing to these differences the story of the development of its life content must differ in several respects. A study of these ponds should aid us in securing some evidence of their origin, the changes they have undergone in reaching their present stage, the relation of these changes to their present soil, water, and life-content. Our special effort should be to collect evidences of change in the area, the nature and cause of this change, and its influence upon the past and present life of the area. The following outline is a consideration of the south shore area, with special reference to

the origin and development of its beach-pond-prairie topography, and the influence of this development upon the past and present life content of the area.

LAKESHORE.

Acquaint yourself with the nature and distribution of the material along the lakeshore; the forces that are acting upon this material, and the part that each plays in determining its form and distribution. Examine the shore and the shallow water of the lake for evidence of plant life growing within the water border; conditions favorable and unfavorable to plant life in this border area. List the animal forms of which you see or detect evidences within or over this water area. Consider the conditions which invite the presence of these animals.

Observe the shore for evidences of birds or insect life; try to determine the attraction offered by the shore to these forms of life. Examine the broad beach area, and list the plants found within it; observe their rooting, their foliage as to the character of the leaves and the comparative leaf surface; the influence of this vegetation on the moving sand. What determines the approach of this vegetation to the lake? What conditions in the area are most severe on plant life? What special adaptations enable the plants to survive these conditions?

RECENT LAGOON.

Try to determine the conditions that have given origin to this lagoon. Determine as fully as possible the plant and animal content of this body of water; list the vegetation growing on the lagoon border. By the aid of a trowel examine the sand along the border of the lagoon to a depth of a foot; note any variation in color, and account for this variation. Examine the sandbank west of this lagoon, and note any variation in the nature of its soil material. Make a special study of a vertical section of the old beach, and note any variation in character or coloring of the materials and evidences of stratification. Try to locate the surface area corresponding to these vertical layers. List the plant life seemingly characteristic of each special area. Note any evidences of animal life in the wooded area.

Materials to be collected for special class study: Soil from the sand area to determine its moisture content, and also from the woodland area. Soil from the sand area, the lagoon border, the vertical bank, and the woodland area, to determine its organic material. Plants from the sand area, to determine their rates of transpiration, and their moisture content.

THE SWAMP-PRAIRIE AREA.

Note the topography and character of the soil material of the swamp margin. The conditions which give rise to this topography. Try to determine whether the swamp has either decreased or increased in its original size. Using a piece of gas pipe, collect the soil to a depth of a foot or more from

the bottom of the swamp. Compare this soil with similarly collected soil from the border and prairie area. (These soils should be tested as to the per cent. of organic matter entering into their composition. See Jackman, *Nature Study for Grammar Grades*, p. 45.) Consider the conditions which would cause such a soil formation, and the influence of these conditions on the area. Make a list of the plants of this swamp-prairie area; (1) those growing within the water border, floating plants, rooted plants; (2) plants found along the marsh border; (3) plants characteristic of the moist prairie. The structure and proportions of root, stem, and leaves in these plants, as compared with the plants of the sand area. Conditions favorable and unfavorable to plant life in these several areas. Try to determine the influence of these conditions on the occurrence, distribution, and life-histories of these plants. List the animals common to these several areas. Try to determine something of their distribution, their food and feeding habits, their life histories, their probable manner of entrance into the area. (Collect materials for experimental study as to constituents of the different soils, water content of these various plants and their comparative rates of transpiration. Collect animal life for stocking aquaria and insect cages to be used in detailed classroom study and in expression.) This area should form a basis for a summary of all the facts with which you are familiar as to the occurrence, distribution, life-habits, and histories of swamp animals and plants as influenced by environment.

REFERENCES: Furneaux, *Life in Ponds and Streams;* Stokes, *Aquatic Microscopy for Beginners;* Needham, "Aquatic Insects of the Adirondacks," *New York State Museum Report;* Baker, *The Mollusca of the Chicago Area;* Needham and Hart, *The Dragonflies of Illinois;* Cowles, *The Plant Societies of Chicago and Vicinity;* Coulter, *Plant Relations;* Miall, *The Natural History of Aquatic Insects;* Elliott, *North American Shore Birds; Geology Survey of Indiana*, 1899.

HISTORY.

COURSE I. HISTORY IN THE ELEMENTARY SCHOOL.

EMILY J. RICE.

I. FUNDAMENTAL theories.

1. The school as a social institution. Adaptation of the curriculum to the needs of a progressive civilization.

2. Relation of subject-matter to experience.

3. Social occupations of the children. Standards by which these occupations should be measured.

4. Selection of historic material according to its value with reference to social work and activities.

5. Adaptation of subject-matter to experiences of children of different grades. Interest in social and industrial conditions; in political institutions.

6. Analysis of methods of teaching history.

7. Relation of history to other subjects of the curriculum: geography, literature, art.

8. Expression in constructive work, painting, drawing, clay-modeling, and dramatization.

II. Social activities in the school. Occupations as a basis for study of the evolution of industrial and social conditions.

1. Cooking and gardening. This includes preparing and serving luncheons, the care of animals, and the care of a garden. Excursions to farms and visits to shops and factories.

2. Sewing and weaving: making of useful articles for the school and home.

3. Wood- and metal-work: making of furniture, utensils, and apparatus needed in the school. Visits to shops and industrial plants.

4. Making of pottery and baskets: visits to potteries, museums, and shops.

5. Printing, illuminating, and bookbinding: printing and binding of material useful for the school. Study of design.

6. Games, entertainments, and physical training.

Those taking this course are recommended to take *Courses 4 and 5 in the Arts.*

REFERENCES: Dewey, *School and Society; Elementary School Record* (University of Chicago); Parker, *Talks on Pedagogics;* ELEMENTARY SCHOOL TEACHER; Dewey and Young, *Contributions to Education.*

III. Sociology and history.

1. Interaction of industrial and social environment and individual activity: Factors of present social and industrial life in the city of Chicago that enter into the experiences of the children in the elementary schools. Typical regions and industries of the city. Means of communication. The growth of the city, its settlement and early history. Some functions of the government: water supply; illumination; streets; bridges; protection — fire department, police department, health department, building laws; education; recreation; improvement associations. Distribution of work throughout the grades.

For topics and references see ELEMENTARY SCHOOL TEACHER, Vol. II, No. 3, p. 198 (November, 1901).

2. Development of the household arts, and colonial history: Basis of the study, the actual work of the children in sewing and weaving. Special value of colonial history in the middle grades. Methods of cloth manufacture at the present time. History of inventions in the textile industries. Home life in colonial times. Work done in the house and on the farm. A New England village. The town-meeting. Physiographic features of New England and their effects upon occupations. Stories of the pioneers. A Virginia

plantation contrasted with a New England farm. Effects of geography upon industries and social life. Movement of the pioneers toward the west. Routes of travel. Development of co-operation among the colonies. Union of colonies for various purposes.

REFERENCES: Weeden, *Economic and Social History of New England;* Bruce, *Economic History of Virginia in the Seventeenth Century;* Doyle, *English Colonies in America;* Lodge, *Short History of the English Colonies;* Earle, *Home Life in Colonial Days;* Smith, *Colonial Days and Ways;* Singleton, *The Furniture of Our Forefathers,* Fiske, *Old Virginia and Her Neighbors;* Eggleston, *Beginners of a Nation;* Page, *The Old South;* Davis, *The Physical Geography of Southern New England,* "National Geographic Monographs;" Powell, *Physiographic Regions of the United States, ibid.;* Mill, *International Geography;* Eggleston, "Husbandry in Colony Times," *Century,* Vol. V, p. 431; "Commerce in the Colonies," *ibid.,* Vol. VI, p. 234; "Social Conditions in the Colonies," *ibid.,* Vol. VI, p. 848; "The Colonists at Home," *ibid.,* Vol. VII, p. 873; "Social Life in the Colonies," *ibid.,* Vol. VIII, p. 387; Chapin, "The Westover Estate," *Harper's Magazine,* Vol. XLII, p. 801; Page, "The Old Dominion," *Ibid.,* Vol. LXXXVIII, p. 4; Robinson, "An Old Time March Meeting," *Atlantic,* March, 1902. See also COURSE OF STUDY (now ELEMENTARY SCHOOL TEACHER AND COURSE OF STUDY), Vol. I, No. 10, p. 863.

3. Games, entertainments, and physical training in the school. Greek education and games. Typical stories of heoric action and of public responsibility. Civic beauty: Revival of the Olympic games in modern times; plans for the games in Chicago in 1904. The Olympic games in ancient Greece. Rewards of victory. Famous statues connected with the games and physical training. Greek education. Growth of sculpture. Story of Ulysses among the Phæacians. Story of Achilles. Marathon, Thermopylæ, and Salamis. Reading of biographies from *Our Young Folks' Plutarch,* by Kaufman. Rebuilding of Athens after the Persian wars. The Parthenon. The Greek theater. Public buildings of Chicago and important statues in public places. Plans for improvement of the city. Stories of the Swiss struggle for independence, and of William of Orange and the siege of Leyden. Study of the revolutionary struggle in America.

REFERENCES: Falke, *Greece and Rome;* Guhl and Köner, *The Life of the Greeks and Romans;* Gardner, *Handbook of Greek Sculpture;* Tarbell, *A History of Greek Art;* Curtius, *History of Greece;* Davidson, *Aristotle and Ancient Educational Ideals;* Mahaffey, *Old Greek Education;* Whitaker, "Young Greek Boys and Old Greek Schools," *Popular Science Monthly,* Vol. LIII, p. 809; Richardson, "The Revival of the Olympic Games," *Scribner's,* Vol. XIX, p. 453; "The New Olympic Games," *ibid.,* Vol. XX, p. 267; Marquand, "The Old Olympic Games," *Century,* Vol. XXIX, p. 803; Motley, *Rise of the Dutch Republic;* Fiske, *The War of Independence* and *The American Revolution;* Lodge, *The Story of the American Revolution;* Tyler, *The Literary History of the American Revolution.* See also the ELEMENTARY SCHOOL TEACHER, Vol. II, No. 6, p. 412.

4. Printing, illuminating, and bookbinding, as occupations, and studies in the Middle Ages: Kinds of work that children may do for the school. Value to the individual. Invention and history of the art of printing. History of

bookbinding. Illuminated manuscripts. The scriptorium. Life in the monasteries. St. Francis of Assisi. Story of Giotto. The Florentine artists. The city of Florence. Life of the artisans. Guilds of the Middle Ages. Trades unions of today. Nuremberg and its craftsmen. The castle and the modern home. Trade from Venice northward. Story of Marco Polo. The mariner's compass and growth of the knowledge of geography. Search for the Indies and discovery of America.

Literature: Scott, *Ivanhoe, The Talisman, Marmion;* Tennyson, *Idylls of the King;* Lanier, *The Boy's King Arthur;* Longfellow, "Giotto's Tower," "Nuremberg," and "The Sermon of St. Francis."

REFERENCES: Buchot, *The Book;* Putnam, *Books of the Mediæval Ages;* Perkins, *Giotto;* Freeman, *Renaissance Sculpture;* Layard's-Kugler, *Handbooks of Painting;* Lambert, *Two Thousand Years of Gild Life;* Headlam, *Nuremberg;* Whitling, *Pictures of Nuremberg;* La Croix, *The Arts of the Middle Ages;* Labarte, *Illustrated Handbook of the Arts of the Middle Ages;* Bunbury, *History of Ancient Geography;* Tozer, *History of Ancient Geography;* Payne, *History of America;* Fiske, *Discovery of America;* Winsor, *Narrative and Critical History of America;* Yule, *Marco Polo;* Knox, *Marco Polo;* Brooks, *Marco Polo.* See also ELEMENTARY SCHOOL TEACHER, Vol. II, No. 7, p. 500.

5. Industrial development of the West and the national government. Current history: Settlement of Chicago. Relation of Chicago to the country. The frontier in colonial times. The Appalachian barrier and routes of travel across it. Settlement of Kentucky. Life in the Northwest Territory. A typical settlement. The city of Washington and the new government. Questions before congress today. Plans for the improvement of the city of Washington. Transportation and demands for roads to the east. Political separation between the east and the west. The Cumberland Road and the Erie Canal. The steamboat and the railroad. The wheat industry and the unification of the North. The cotton industry and the unification of the South. Political separation between the North and the South. The mining industry. The factory system of labor and its effect upon the worker.

REFERENCES: Mill, *International Geography;* Powell, *Physiographic Regions of the United States*, "National Geographic Monographs;" Sparks, *Expansion of the American People;* Roosevelt, *Winning of the West;* Turner, "The Significance of the Frontier in American History," *Annual Report of the American Historical Society* 1893, and also the *Fifth Yearbook of the National Herbart Society*, 1899; Schouler, *History of the United States;* McMaster, *History of the United States;* Wright, *Industrial Evolution of the United States;* Hammond, *The Cotton Industry.* See ELEMENTARY SCHOOL TEACHER, Vol. II, No. 8, pp. 586, 629.

COURSE II. HISTORY FOR THE PRIMARY GRADES.

EMILY J. RICE.

I. School organization.

1. Relation of school and home. Specialization and organization of work in the school. Function of the teacher.

2. Relation of experience of children to selection of subject-matter. Social activities and occupations in the school.

3. Relation of changes in the school curriculum to changes in conditions of society.

4. Effects of the character of school organization upon methods of teaching.

5. Value of history in primary grades. Standpoint of children's interest in other times.

6. Relation of history and literature in the curriculum.

II. Social activities.

1. Building and furnishing of playhouses. Beginning of the arts. Making of furniture and dishes.

2. Weaving and simple needlework: making of useful articles for the school and home.

3. Cooking and gardening: preparation of luncheons. Care of animals.

4. Making of baskets and pottery. Visits to museums and shops.

5. Printing and bookbinding.

6. Games and entertainments.

Those taking this course are recommended to take *Courses 4 and 5 in the Arts.*

III. Sociology and history.

1. House-building and interior decoration: Visits to buildings, shops, and museums. Stories of houses of primitive people. See models in Field Columbian Museum. Study of materials used in construction and of methods of transformation and transportation. Uses of utensils and dishes made. Occupations of the household. Study of methods of production and preparation of food and clothing. Stories of industry and invention. Adaptation of stories and story-telling.

REFERENCES: Müller, *Training of a Craftsman;* Viollet-le-Duc, *Homes and Habitations of Man in All Ages;* Gardner, *Homes and All about Them;* Cook, *The House Beautiful;* Wharton and Codman, *Decoration of Houses;* Wheeler, *Household Art; The Studio; The House Beautiful;* Harwood, "The Story of a Pine Board," *St. Nicholas*, Vol. XXV, p. 20. See also ELEMENTARY SCHOOL TEACHER, Vol. II, No. 4, p. 266.

2. The textile industry: Stories of primitive processes of spinning, dyeing, and weaving. History of people in the shepherd stage of development: country; nomad life; travel; social organization; the patriarch; food; property in flocks and herds; clothing; spinning and weaving; shelter; exchange; stories of the Hebrews; Arab life. Comparison of the shepherd with the hunter and the farmer. Beginnings of trade and navigation. Stories of the Indians and Indian myths.

REFERENCES: Mason, *Woman's Share in Primitive Culture;* Sven Hedin, *With the Shepherds of the Khotan-Daria;* Doughty, *Arabia Deserta;* Mumford, *Oriental*

Rugs; Holt, *Oriental Rugs;* Baldwin, *Old Stories of the East;* Andrews, *Each and All;* "A Suit of Clothes," *Harper's*, Vol. LXXX, 1890, p. 685. See ELEMENTARY SCHOOL TEACHER, Vol. II, No. 4, p. 267.

3. Cooking and gardening: Visits to farms and shops. Study of materials used in cooking and of methods of production as seen at farms. The city as a center for distribution. Means of transportation. Settlement of a western farming community. Story of Abraham Lincoln. History of agriculture. Methods of obtaining food with primitive tools. History of the plow and other agricultural implements. History of the mill. Early methods of cooking and of making pottery. Flax and cotton culture. Agriculture in ancient Egypt. Stories from the *Odyssey*.

REFERENCES: "Agricultural Machinery," *Iconographic Encyclopœdia*, Vol. VI, p. 177, plates 1–8, 56–60; Small and Vincent, "The Family on the Farm," *An Introduction to the Study of Society;* Abbott, *Primitive Industry;* Binns, *The Story of the Potter*, Wilkinson, *Ancient Egyptians*, Vol. II, pp. 377–429; *Odyssey* (translated by Palmer). See ELEMENTARY SCHOOL TEACHER, Vol. II, No. 4, p. 269.

4. Printing and bookbinding: Inventions that have developed means of intercommunication; printing, books; boats, railways. Stories of famous explorers. The early history of Chicago. Some modes of municipal service.

REFERENCES: See ELEMENTARY SCHOOL TEACHER, Vol. II, No. 7, p. 500, and Vol. II, No. 3, p. 198.

QUESTIONS FOR DISCUSSION IN COURSES III AND IV.

VIOLA DERATT.

I. Choice of subject-matter. The selection, from the field of sociology and history, of material suited to the development of the children in the various grades. Selection determined by environment, child-study, aim, response to social demands.

Should the teacher or the children select the subject-matter?

Environment: Limitations of schoolroom life. Relation of social and industrial environment to conception of history.

How is imagery of past events attained to?

Child-study: Limitations imposed by nascent periods.

Is a knowledge of psychology useful to a history teacher?

Aim: History study as a factor in mental growth. Response to social needs. Possibility of subject-matter being chosen through need of serving the community.

To what extent should a child be of use in society? Should his work be of commercial value?

II. The activity being chosen, how entered upon? Observation. Field work.

Has history less demand for field work than science?

Reading: Evils of.

How much reading is good for children?

Expression through work developing into arts.

Can children do work of artistic value? How much skill should be sought? What is the value of so-called "constructive work" in the teaching of history?

Relation of games, social entertainments, and other means of school organization to the aims of history-teaching.

Is "self-government" a failure or a success in the schools?

REFERENCES: Dewey, *School and Society, Psychology and Social Practice; Elementary School Record* (University of Chicago); Parker, *Talks on Pedagogics;* Donaldson, *The Growth of the Brain;* G. S. Hall, "The Ideal School as Based on Child Study," *Forum*, Vol. XXXII, p. 24; Krüsi, *Life and Works of Pestalozzi;* Guimps, *Histoire de Pestalozzi;* Sheldon, *Teacher's Manual;* E. Barnes, *Studies in Education* (Stanford University); Rice, *Outlines of History and Literature.*

COURSE III. AMERICAN HISTORY IN THE ELEMENTARY SCHOOLS.

1. Discovery of America.

Its relation to geographical discovery as a whole. The growth of the world-map. Ships of the period of Columbus; their size, equipment, mode of living on board. Instruments for astronomical observation. Increase in means of communication, invention of paper and printing. Relation of printing to the advance of discovery. Observation of modern means of communication: boats, railroads, postal service, printing, telegraph, and cable. Correlation of the history of this period with science, mathematics, and geography.

Literature. — Selections from *Travels* of Marco Polo and *Travels* of Sir John Maundevil; Joaquin Miller, "Columbus;" Kingsley, "St. Brendan," *The Hermits;* Longfellow, "Sir Humphrey Gilbert," "The Lighthouse," "The Discovery of the North Cape," "The Ballad of Carmilhan;" Coleridge, *Ancient Mariner;* Kipling, *Captains Courageous;* Stevenson, *Treasure Island;* Kingsley, *Westward Ho!;* Fiske, *Discovery of America, Voyage of Magellan.*

REFERENCES: Marco Polo, *Travels;* Yule, *Marco Polo;* Brooks, *Marco Polo;* Knox, *Marco Polo;* Keane, *Evolution of Geography;* Bunbury, *History of Ancient Geography;* Freeman, *Historical Geography;* Tozer, *History of Ancient Geography;* Fiske, *Discovery of America;* Payne, *History of America;* Winsor, *Narrative and Critical History of America;* N. Ponce de Leon, *The Caravels of Columbus;* Irving,

Columbus; Ford, *The Writings of Columbus;* Seelye, *Columbus;* "Columbus' Journal 1492–3," *Hakluyt Society Publications;* "Vasco da Gama, *ibid.;*" Towle, *Vasco da Gama;* Guillemard, *Magellan;* Hart, *American History as Told by Contemporaries,* Vol. I; Bouchot, *The Book and its Printers;* Putnam, *Books and Their Makers;* "Printing," *Harper's Magazine,* Vol. LXIII, p. 841; "Old Printing Presses, *ibid.,* Vol. LXXXI, p. 398; "Paper, Printing," *ibid.,* Vol. LXXV, p. 113; "The Printed Book," *ibid.,* p. 165; "Origin of Printing," *ibid.,* Vol. XXXVII, p. 637; "Early Printing and Printers," *ibid.,* Vol. XI, p. 466; "Marco Polo and His Book," *ibid.,* Vol. XLVI, p. 1; "Caravan Journeys through Central Asia," *ibid.,* Vol. XIV, p. 506.

II. The colonial period.

Survey of the Atlantic coast region and of the several colonial centers. Status of industries in England. Limitations on the transfer of English industries to America. Types of colonial life showing household industries. The beginnings of commerce, and manufactures in relation to commerce. The advance to the Appalachians. Conditions of travel and transportation. Industrial relations between England and the colonies.

Literature.—Hawthorne, *Twice Told Tales;* Irving, *Sleepy Hollow, Rip Van Winkle, Knickerbocker;* Stedman, "Peter Stuyvesant's New Year's Call," *Poems;* Lowell, "Sunthin' in the Pastoral Line;" Longfellow, *Evangeline;* Holmes, "Grandmother's Story of Bunker Hill Battle."

REFERENCES: Shaler, *Nature and Man in America;* Guyot, *Earth and Man;* Wright, *Industrial Evolution of the United States;* Alice Morse Earle, *House Life in Colonial Days, Children of Colonial Days;* Doyle, *English Colonies in America;* Walton and Brumbaugh, *Stories of Pennsylvania;* Fiske, *Beginnings of New England, Old Virginia and Her Neighbors, The Dutch and Quaker Colonies in America;* Weeden, *Economic and Social History of New England;* Bruce, *Economic History of Virginia in the Seventeenth Century;* Lodge, *English Colonies in America;* Traill, *Social England;* Cunningham, *Development of English Commerce.*

III. The settlement of the West.

Routes inland from the seaboard. Dependence of industries upon transportation. Pioneer life and adventure. Relation of the western pioneers to the Revolution. Geography of the interior. Growth of industries in the South and East. Improvements in roads and boats. Extension of United States government to the West. Exploration of the Northwest. The old Santa Fé trail. Immigration to California. Early railroads and their effect. General survey of the industrial condition of the United States before the Civil War. The Civil War as an "industrial revolution."

Literature.—Cooper, *Last of the Mohicans, The Pioneers, Deerslayer;* Irving, *Astoria;* Emerson, "Boston Hymn;" Catherwood, *Story of Tonty, Heroes of the Middle West.*

REFERENCES: Roosevelt, *Winning of the West;* Perkins, *Annals of the West;* Hinsdale, *The Old Northwest;* Winsor, *The Mississippi Basin;* Cooley, *Michigan;* Carr, *Missouri;* "Fergus Papers" (Chicago Historical Society); Wright, *Industrial*

Evolution of the United States; "Development of Mechanical Inventions in the United States," *Harper's Magazine*, Vol. L, p. 67. (For a complete reference list on this course see ELEMENTARY SCHOOL TEACHER, April, 1902.)

COURSE IV. HISTORY FOR PRIMARY GRADES.

I. Observation of present industries.

House-building, brick-making, preparation of lumber for house-building, weaving, sewing, gardening, farming, transportation, baking, dairying, milling, packing, pottery-making, iron-working. Selection of industries dependent on environment.

Schoolroom work related to these industries: reading, writing, modeling, drawing, making.

Literature.— Myths and fairy tales connected with these industries, or told irrespective of such connection. Tales of inventors and other workers.

REFERENCES: Viollet-le-Duc, *Story of a House;* Binns, *Story of the Potter;* Rock, *Textile Fabrics;* Chase and Clow, *Stories of Industry;* King, *The Land We Live In*, Part I; "Textile Art in its Relation to Development of Form and Ornament," *North American Ethnology* (House Miscellaneous Reports, 1887–88).

II. Questioning of the necessity back of the industries observed.

Dramatization of the conditions which compelled their discovery. Hunter life: food, weapons, dwelling, clothing, fire, cave dwellers. Shepherd life: domestication and care of animals, pottery, weaving, customs; stories of Hebrew shepherds, of Arabs, of modern types in Palestine. Beginnings of tillage; discovery of seed propagation; feeding of animals. Arts and customs dependent on fixed habitation: Pueblo dwellers, navigation; invention of boats, lake dwellers, Viking stories.

Literature.—Waterloo, *Story of Ab;* Josephus, *Abraham;* the Bible, "Joseph and his brethren;" Browning, "Muléy keh;" Lamartine, "Palissy," *Memoirs of Celebrated Characters;* X. B. Saintine, *Picciola;* "Ceres and Persephone," "Montezuma;" Hall, *West-Over-Seas, Four Old Greeks;* Longfellow, "The Crew of the Long Serpent."

REFERENCES: Joly, *Man before Metals;* Viollet-le-Duc, *Homes and Habitations of Man in All Ages;* Figuier, *Primitive Man;* Mason, *Origin of Inventions, Woman's Share in Primitive Culture;* Morgan, *Houses and House Life;* Doughty, *Arabia Deserta;* Starr, *Some First Steps in Human Progress;* Parker, *Fleets of the World;* Sven Hedin, *Through Asia;* Keller, *The Lake Dwellers.*

GEOGRAPHY.

ZONIA BABER.

I. THE basis of a curriculum for elementary schools is found in the needs of society.

1. How the individual is educated: through the home, nature, the school, society, business, government: (*a*) part accomplished by each; (*b*) entrance into the work of every institution essential to the appreciation of the spirit of the institution.

2. Institutions seek to perpetuate themselves for their own sake, not for the sake of the individual: (*a*) compare European homes of mediæval times with homes of today; compare schools of mediæval times with schools of today; (*b*) individual adaptation to changing institutions; (*c*) effect of centralization of industries upon individual education; (*d*) effect of centralization of government upon individual education; (*e*) effect of city aggregation upon the education of the individual; (*f*) effect of isolation from nature upon the education of the individual.

II. Motive in all action: in the home; in the school; in society; in business; in relation to nature.

1. Effect of motiveless action.

2. Difference between the motive of the teacher and that of the pupil in school work.

3. Effect of school work for which a motive must be invented.

4. The child's motive for the study of reading, writing, history, geography, nature study, drawing, modeling, making, etc. The teacher's motive.

5. Changes necessary to the formation of a school in which each pupil may have normal self-expression.

6. Should the school enter the commercial world? Advantages, disadvantages.

III. Is the study of geography a social need?

1. Necessity of the intelligent enlargement of a sympathy for the peoples of the world.

2. Necessity for an intelligent appreciation of natural phenomena in relation to individuals and nations.

3. Curriculum in geography for elementary schools: (*a*) basis of choice of subjects; (*b*) what aspects of the subject can pupils really enter into?

COURSE FOR PRIMARY GRADES.

Normal interests of pupils from six to twelve years of age in the home, in society, in business, in government, in the school, in nature.

I. The home.

1. Shelter. Manner of construction: (*a*) tent—Arabia, Mongolia, India; (*b*) grass house—Java, Yucatan, Cuba, Hawaii; (*c*) snow—Greenland; (*d*) stone, visit to quarry; (*e*) brick, visit brick kiln at Purington; (*f*) lumber, manner of obtaining lumber, lumbering in Michigan, compare with similar industry in Burma.

2. Lighting: (*a*) oil, vegetable and animal; candles, gas, electricity; (*b*) how obtained? visit gas and electric plants.

3. Heating and cooling the home. Heating: (*a*) brazier—Mexico, Japan; (*b*) kang—Corea, China; (*c*) stove—America, Germany; (*d*) furnace—America; (*e*) Yaryan system. Cooling: punka—India. Fuel: (*a*) location; manner of obtaining wood, charcoal, coal, coke, gas, oil.

4. Water: (*a*) rain—cisterns; where used; (*b*) underground—source; wells—manner of digging; (*c*) rivers, lakes; (*d*) means of lifting water from wells, rivers, lakes; sweep (shaduf)—Egypt; sequiya—Egypt and Yucatan; pump—visit one of the city pumping stations; (*e*) water carriers in Egypt, India, Mexico; (*f*) conditions which favor the use of wells, rivers, lakes, cisterns.

5. Food. Source: how obtained—hunting, fishing, agriculture, grazing, manufacture. (1) Hunting—in mountains and plains in cold, temperate, and hot regions; Eskimos a type of peoples who live by hunting. (2) Fishing on Lake Michigan; cod-fishing on Atlantic coast; fishing in Norway and Japan. (3) Agriculture: (*a*) type of farming in Illinois, Egypt, Java; (*b*) products we use from an Illinois farm—wheat, corn, oats, fruits: means of cultivation; (*c*) products we use from a tropic farm: rice—Java; sugar—Cuba; tea—Ceylon; coffee—Brazil; cocoa—Mexico; tapioca—Jamaica; tropic fruits: oranges, pineapples—Florida; bananas—Hondurus; how grown? transported? (4) Agriculture: soil; moisture; heat; drainage: (*a*) soil—sand, gravel, clay, loam, humus; experiment showing effect on growth of vegetation (see "Natural Science"); (*b*) moisture—experiments showing moisture relation to plants (see "Natural Science"); India, Sahara, Illinois; (*c*) heat relation to vegetation; experiments (see "Natural Science"); effect in Jamaica, Illinois, Greenland; (*d*) drainage—river, ditch, tile; slope—angle of condemnation in Himalayas; (*e*) destructive agents—frost, wind, drought, floods, animals, other plants; means of protecting against each. (5) Grazing: animal products from grazing areas. (6) Preparation and cooking of food: a Japanese dinner, Chinese dinner, Arab dinner, Mexican dinner.

6. Clothing: (*a*) source and manner of production of cotton, flax, silk, fur, wool, hair, leather (see "Textiles"); (*b*) jewelry—mining gold, silver, precious stones.

II. Nature: Industrial and æsthetic aspects. Genesis of geographic forms.

1. Lakes: Lake Michigan's contribution to Chicago; study lakeshore; (*a*) drinking water, manner of obtaining; (*b*) fishing; (*c*) commerce—grain, iron, lumber, food, and manufactured products; (*d*) work of waves, wind, and littoral currents along the lakeshore—cliffs, bars, spits, dunes; study cliff-making along the north shore, and dunes along south shore; reproduce similar forms in laboratory; (*e*) harbors along coast; means of maintaining good harbors; (*f*) light-houses and life-saving stations; visit station.

REFERENCES: Salisbury and Alden, *Geography of Chicago and its Environs;* Shaler, *Beaches and Tide Marshes;* Davis, *Physical Geography;* Tarr, *Physical Geography;* Russell, *Lakes of North America.* For outline on rivers, glaciers, wind, see ELEMENTARY SCHOOL TEACHER, Vol. II, No. 1, pp. 50–53. See also "History," syllabus of Course 2, in this number.

COURSE FOR GRAMMAR GRADES.

The curriculum (see "Course for Primary Grades"). Interests of children from ten to fourteen years in nature, society, government, industries, current events. Present commercial movement a world-uniting interest. A knowledge of the world's geography an essential.

THE WORLD AS A WHOLE.

I. Distribution of land masses.

1. Western land mass one continental area. (1) Western highlands: Rocky Mountains, Sierra Madre, Central American mountains, Andes mountains: (*a*) general characteristics — volcanoes, plateaux, mountain ranges; (*b*) effect on the remainder of the continent; (*c*) mountain industries. (2) Central plain in North and South America; depressed in Gulf of Mexico and Caribbean sea: (*a*) effect of the central plain on the remainder of the continent; (*b*) indigenous vegetation of the central plain; (*c*) industries developed in consequence of the plain; (*d*) effect of the depression of the plain in the Gulf of Mexico and Caribbean sea; (*e*) would it be to the advantage or disadvantage of the continent if the American Mediterranean should become land? (*f*) would it be advantageous to the continent, or otherwise, if the American Mediterranean pierced the continent? (*g*) What are the location advantages, or disadvantages, of the West Indies? Could they have a more advantageous location than they have? (3) Eastern highland: Canadian, Appalachian, Guiana, Brazilian: (*a*) characteristics; value to continent; effect on development. (4) Distribution of river systems; effect on the development of civilization. (5) Coastal plains. (6) Climate — distribution of heat, prevailing winds, distribution of rainfall. (7) Distribution of forests, prairies, deserts. (8) Distribution of industries — farming, mining, grazing, fishing, hunting, lumbering, manufacturing. (9) Distribution of cities; account for location. (10) Distribution of governments; cause for national divisions.

REFERENCES: Mill, *International Geography; Compendium of North America; South America;* Reclus, *Earth and its Inhabitants;* Shaler, *The United States of America; Our Continent; Man and Nature in America; National Geographic Monographs;* Russel, *Rivers of North America; Lakes of North America; Volcanoes of North America;* Carpenter, *South America, Social, Industrial, and Political;* Adams, *Commercial Geography.* For a special study of North America see ELEMENTARY SCHOOL TEACHER, Vol. II, No. 1, p. 51.

2. The eastern land mass of Eurasia and Africa considered as one continent. (1) Highlands extending from Kamtchatka through southern Asia and eastern Africa; characteristics of mountains and plateaux. (2) Great plain extending through northern Asia and Europe, central and western Africa, interrupted by mountains of southern Europe, North Africa, Scandinavia: (*a*) have the plains and highlands the best relative position for the development of the continent? (*b*) advantageous changes. (3) Climate — distribution of heat, rainfall, prevailing winds. (4) Distribution of river basins. (5) Distribution of forests, prairies, deserts. (6) Distribution of governments; account for it. (7) Distribution of large cities; account for location.

REFERENCES: Mill, *International Geography; Asia, Europe, Africa*, "Compendium;" Mill, *Realm of Nature;* Reclus, "Asia," "Europe," "Africa," *Earth and its Inhabitants;* Sven Hedin, *Through Asia.* For a special study of Eurasia see ELEMENTARY SCHOOL TEACHER, Vol. II, No. 1, p. 53.

3. Islands of the world: Location. Areas where islands are numerous; where islands are few. (1) Continental islands located. (2) Oceanic island: Formation: (A) Volcanic: (*a*) location — relation of continental volcanic regions to location of volcanic islands; (*b*) special study of Martinique and other volcanic West Indies, Hawaii, Krakatoa; appearance — rock, different kinds of lavas, ashes; vegetating new lava flows. (B) Coral: (*a*) conditions for coral growth; (*b*) location of coral island and reef; (*c*) special study of Bermuda Islands. (3) Division of control of islands among great nations of the earth: (*a*) use of islands as promoters of maritime enterprises; (*b*) the advantage or disadvantage to the United States of control of West Indies.

REFERENCES: Islands: Reclus, *New Physical Geography: The Ocean; Oceanic.* Hawaii: Dutton, *Hawaiian Volcanoes; United States Geological Survey, Fourth Annual Report*, 1882–8; Wallace, *Island Life;* Alexander, *Islands of the Pacific;* Dana, *Characteristic Volcanoes;* Mrs. J. S. Bishop, *Hawaiian Archipelago;* Maxwell, *Lavas and Soils of Hawaii;* Judd, *Volcanoes;* Hull, *Volcanoes.*

West Indies: Hill, *Cuba, Jamaica, and Porto Rico, with Other Islands of the West Indies;* Hill, "Geology of Cuba," *Bulletin*, Vol. XVI, No. 15, Museum of Comparative Zoölogy, Cambridge; Hill, "Geology of Jamaica," Vol. XXXIV, *ibid.;* Hearn, *Two Years in the West Indies;* Paton, *Down the Islands;* Kingsley, *Westward Ho!* and *At Last;* Agassiz, *Three Cruises of the Blake; National Geographic Magazine*, May, 1898; Reclus, "North America," *The Earth and Its Inhabitants;* Stanford, *Compendium;* Agassiz, *Florida Reefs;* Agassiz, *Cruise of the Wild Duck.*

Coral and coral islands: Dana, *Distribution of Coral Reefs;* Darwin, *Bermuda;* Agassiz, *A Visit to the Bermudas in March, 1894; Bulletin*, Museum of Comparative Zoölogy, Vol. XXVI, No. 2; Heilprin, *The Bermuda Islands;* Thomson, *Atlantic*, I; Rice, *National Bulletin*, No. 25; Jones, *Naturalist in the Burmudas, 1859; Voyage of H. M. S. Challenger*, Part I; Mill, *International Geography.*

II. Distribution of sunshine.

1. Change of place and time of sunrise, sunset; cause of variation in length of day here.

2. Regions of earth where night and day have least change.

3. Regions of greatest changes.

4. Apparent meridianal movement of sun; difference in amount of sunshine received in same number of hours in summer and in winter.

5. Movements of isothermal equator: (*a*) movement of isotherm of 32° —northern and southern hemisphere; (*b*) movement of isotherms 60°–70° in northern and southern hemisphere; (*c*) effect of oceans, mountains, and plains on isotherms; (*d*) a knowledge of mathematical geography an essential in imaging continental landscapes.

REFERENCES: Jackson, *Astronomical Geography;* Newcombs, *Popular Astronomy;* Huxley, *Physiography;* Gregory, *Elements of Physiography.*

III. Winds and rainfall.

1. Prevailing winds of this region.

2. Cause of winds: effect of temperature, moisture; barometric pressure; velocity of winds — cause.

3. Study of United States weather maps; changes in regions of "high" pressure; of "low" pressure; movements of storm centers; tornadoes.

4. Terrestrial winds: cause; direction of movement; velocity: (*a*) trade winds— change; regions affected; (*b*) westerlies — changes; (*c*) monsoons — cause, regions affected.

5. Relation of winds to distribution of life.

6. Regions of greatest rainfall: (*a*) relation of rainfall to the prevailing wind; (*b*) relation of rainfall to latitude, altitude; (*c*) relation of rainfall to topography; (*d*) regions of least rainfall — cause; regions of moderate rainfall — cause.

IV. Ocean currents.

1. Cause; position in oceans.

2. Effect on continents.

3. Relation to winds, temperature, rainfall, fogs.

4. Relation to distribution of life.

V. Distribution of vegetation.

1. Relation to rainfall and heat: (*a*) distribution of forests — cause; (*b*) distribution of prairies — cause; (*c*) distribution of deserts — cause.

2. Relation of vegetal distribution to civilization.

REFERENCES: Winds: Davis, *Elementary Meteorology; Physical Geography;* Ferrel, *Popular Treatise on Winds;* Waldo, *Elementary Meteorology;* Geikie, *Physical Geography;* Archibald, *The Story of the Atmosphere;* Gregory, *Elements of Physiography.*

Ocean currents: Reclus, *The Ocean.*

VI. Distribution of man.

Relation of history to geography. (See COURSE OF STUDY [Chicago Institute], Vol. I, No. 1.)

FIELD WORK.

The second term will be devoted to field work in geography and nature study in selected regions in Illinois, Iowa, and Wisconsin. The work will include a study of the topography and genesis of the regions visited; also a study of the industries and the plant and animal life as determined by this topography. The field work will be in charge of Miss Baber and Mr. I. B. Meyers. In case Mr. Meyers should not be able to go, a substitute will be provided.

MATHEMATICS.

COURSE I. APPLIED ARITHMETIC.

(Laboratory course.)

GERTRUDE VAN HOESEN.

THIS course has been planned with the year's work as a basis. When the data have been obtained, the work will be considered from the standpoint of adaptation to grade. In order to do this, special attention will be given to the teaching of the fundamental operations, fractions, decimals, and percentage, wherever the work demands their use.

SOILS.

I. Classification in relation to locality, *i. e.*, garden, farm, swamp, forest, or lakeshore. (1) Examination as to mechanical constituents. (2) Examination as to properties: (*a*) percolation of water; (*b*) capacity to prevent evaporation; (*c*) capillarity; (*d*) inference in regard to the percentage of the different constituents in the various soils. (3) The relation of the earthworms to good soil. (4) Examination of soils in regard to physical constituents.

II. Examination of plants from the different localities. (1) Does the difference in soil affect the constituents or growth of the plants? (2) Comparison of plants from the different areas as to roots, stem, and leaves.

WATER.

The relation of moisture to plant life. (1) Proof that plants absorb water. (2) Relation of the amount of water absorbed to the amount transpired. (3) Relation of the amount transpired to the leaf area. (4) Estimate the amount of water transpired from a small tree. (5) How much water has the tree at its disposal? (*a*) Find the volume of soil within reach of the roots. (*b*) Estimate the amount of water in this soil. (6) Effect of transpiration from land covered with forests. (7) Study of evaporation. What affects the

rate? (8) What amount of water is added to supply already in soil? Keep record of rainfall. (9) Use of water to the plant. (*a*) Test samples of the water which has transpired and that which the roots absorb. Inference. (*b*) Find the constituents of the fruit, leaves, wood, and soil of different trees.

TEMPERATURE.

Relation of temperature to growth. Use the sunshine and weather charts to find some of the causes for the change in the landscape.

GROWTH.

Determination of the growth of trees. The use of the records made of the physical measurements of the children.

The problems that come up in connection with manual training, cooking, and gardening, and those also that the teachers wish to solve in connection with their other work, will be considered in this course.

COURSE II. THE INTERRELATION OF SUBJECTS IN ELEMENTARY MATHEMATICS.

HERBERT ELLSWORTH SLAUGHT.

It is believed that the teaching of arithmetic should have as a rational basis a thorough knowledge of at least the elementary subjects of mathematics with which it is so closely connected. An appreciative familiarity with algebra, geometry, and trigonometry, and desirably the elements of analytic geometry and calculus, not only provides the teacher with a fund of illustrative material for use in the class-room, but also gives the breadth of view, keenness of insight, and clearness of thinking which enable the possessor to formulate and pursue a sound and inspiring method of teaching. This course is designed to set forth the close relationship among these subjects, and to discuss the bearing of this upon the teaching of arithmetic. The work will involve both theory and practice, and each will be considered from the standpoint of the pupil as well as that of the teacher in the upper grades.

For convenience the matter will be considered under the following five topics:

I. The content of the various subjects in elementary mathematics. The classification of the subject-matter with reference to its relation to arithmetic.

II. The number concept; its origin and development; its bearing on the development of the reasoning power.

III. Ends to be sought in the study of arithmetic in the upper grades.

IV. Consideration of various means of attaining the desired results in the study of elementary mathematics.

V. The selection and solution of problems. Interpretation and methods of attack.

SPEECH, ORAL READING, AND DRAMATIC ART.

MARTHA FLEMING.

EXPRESSION is a social function. The school gives ideal conditions for acquiring power in expression, and it should be organized to give the child ample opportunity to use this power for the good of the whole community.

I. *Expression.*— Expression is the natural result of all thinking, and, when controlled by the will, becomes a means of image growth. It is habit-forming. It is character-making. Expression has three functions: first, its physical function, the training and growth of the body; second, its intellectual function, reaction upon thought, for without expression educative thought is impossible; third, its moral function, the development of motive and the training of the emotions. These three are in reality one in action. Any attempt to separate them is fatal to all.

Expression is a necessity of growth, a revelation of power, of one's largest self and highest possibilities. Definite, clear thinking produces definite, clear expression. Vague, indefinite thinking produces vague, indefinite expression. It is uncertainty that paralyzes.

Each mode of expression has its own particular reactive function. Form, necessary to any clear imaging, is realized by the plastic arts — a closer analysis of form by drawing, of color by painting, of complete synthesis by writing. Dramatic art focuses the experiences gained in all the other arts, and combines them into one supreme act. The product of each mode of expression reinforces all the others. Children should get a wide outlook — taste, expression in every form — no specialization. (See Parker, "Relation of Self-Expression to Knowledge," ELEMENTARY SCHOOL TEACHER, Vol. II, No. 1; *idem*, *Talks on Pedagogics*, chaps. x, xi, xii, xiii.)

II. *Reading.*— Reading is thinking. It realizes ideas, focuses experiences, and forms habits. It presupposes a certain experience on a subject. It is an organic part of the study of any subject. Attitude of the child toward books. Preparation and motive for their use. Reading sometimes a dissipation. Waste of time and energy in learning to read. Where should the problem of learning to read be solved? The habit of thinking of the forms of expres-

sion. Reading to the children. Reading may be expressed by any of the modes of expression — speech, writing, painting, oral reading. (See Parker, *Talks on Pedagogics*, chap. ix.)

III. *Oral reading.*— Only one mode of expression. What kind of images demand oral expression? Compare oral reading and speech as modes of expression. Function of each. Relation to other modes. Agents of expression. When should a child express the thought acquired by reading in his own words? When should he read orally? Motives governing the desire to read aloud. Ideal conditions. Value of story-telling by children as a help to oral reading; of discussions on subjects of interest in the social life of the school; of drill upon literature committed to memory; of dramatic reading; of dramatic presentations. Is there too much oral reading in the school? Shall a child who is reading aloud be permitted to struggle with the pronunciation of a word? How keep him unconscious of his difficulty? Function of sight-reading. Material for sight-reading.

IV. *Dramatic representation.*—The dramatic instinct. Its manifestations in children. What part does it play in the child's development? Significance of children's plays, imitations, impersonations, and love for dramatic stories. Organization of these manifestations.

Relation to other modes of expression — pictorial art, music — a vital one. How shall it be utilized in the school? Into what should it flower; that is, if dramatic presentation is an organic part of the life of the school from the kindergarten on, what should be the outcome? Value to the teacher of a knowledge of the history of dramatic art and of the construction of a drama — its essential characteristics, its relation to life, its limitations, and the function of costume and scenery. Action and emotion in themselves not dramatic, except when they are part of an organized whole. Characters in dialogue is not necessarily drama. Pottery, painting, music, the drama, are traditional forms. They are tools which we accept as we do social institutions. A drama is created and is not complete until acted. The value of knowledge on any subject is determined by the quality and expansiveness of the emotion aroused, and its radiation into actual life and helpfulness. Intense emotional manifestations often result from vague, indefinite images. Emotion an end in itself, mind-disintegration. Importance of definite, clear thinking. Dramatic art, including music, an outlet for the great wealth of human emotion. They bring the whole range of emotional life under the will, and the expression is orderly, lawful, and accurate.

Relation of the story to the drama. Story-telling. Dramatic representation of stories. Characteristics of a story which lends itself to dramatization.

REFERENCES: Lessing, *Hamburgische Dramaturgie;* Freytag, *Technik des Dramas;* Price, *Technique of the Drama;* Boucicault, *North American Review*, January, 1878.

V. *Literature.*— Drill means training in thinking.

Dramatic literature should be chosen for drill. It should appeal to the higher emotions — love, courage, patriotism; to the sense of beauty and rhythm. It should have the characteristics of a good play. The images should crowd each other. The thought and emotion should be within the child's grasp, or relatively so. It should be used as an organic part of all subjects of study or of the interest in the life of the child, and at the point and time when the connection is closest. It should be a great thing that appeals to broad, universal experience, that keeps the individual moving out from himself, that gives insight into the unity and interdependence of men, and into the joy of service. It should call into strong, broad action all the agents of expression. Technique is gained under the inspiration of an aroused imagination. Analysis and interpretation of selections of literature adapted to children in different grades. Lists of selections that may be used with history, geography, and science in the different grades. Principles upon which a story or selection may be cut or adapted for oral reading. How to study a selection for oral reading. How to incite children to study a selection for oral reading. Value of silent, independent study of text. Study should be continued until some tangible result in expression is possible. Over-analysis. Criticism. Self-consciousness. Affectation. Genuine expression. Genuine quality, good or bad, is unconscious of itself. Expression; its effect. Study of individual children. Children as judges of literature.

We shall follow the work in the Model School, noting the use of books, the necessities and opportunities for oral expression, and shall select and study literature which answers the demands of the children. We shall, also, where possible, follow the work in history, geography, and nature study, and select and read orally any literature which will illuminate the subject, or give expression to the highest and best emotions aroused by that subject. This will make literature an organic part of the study of the subject. Rivers, mountains, plains, deserts, volcanic action, tides, oceans, floods, winds, sun, moon, shadow, birds, animals, trees, flowers, and "the ever recurring seasons," in their relation to human life, have been the inspiration and material of some of the greatest literature.

We shall begin the study of expression by expressing. As a preparation for this work, the teacher would do well to select a scene from a drama or poem, study it, live with it, and come to the class ready to express what it means to her.

Suggested literature stories: "Mother Goose" rhymes and jingles; *The Sleeping Beauty*, and other similar stories; Baldwin, *Stories of the East*, and *Story of Siegfried;* stories from the *Iliad* and *Odyssey;* the Bible; Harris, "The Tar Baby," and other stories from *Nights with Uncle Remus;* Scott, *Ivanhoe;* Kipling, *Jingle Book;* Irving, *Rip Van Winkle.*

Orations: "Webster's Reply to Hayne;" "Lincoln's Speech at Gettysburg;" Grady, "The New South."

Poems: Coolidge, "How The Leaves Came Down;" Stevenson, "The Wind," "Windy Nights," "The Wind in a Frolic;" Browning, "The Pied Piper" and "Hervé Riel;" Longfellow, "Paul Revere's Ride," "The Launching of the Ship;" Lanier, "Song of the Chattahoochee," "Owl against Robin;" Tennyson, "The Revenge;" Kipling, "Ballad of the East and West;" Read, "Sheridan's Ride;" Bret Harte, "John Burns of Gettysburg;" Thompson, "The High Tide at Gettysburg;" Walt Whitman, "O Captain, My Captain;" Scott, "The Chase," "Lochinvar," "Earl Douglas and Marmion."

Prose selections: Lew Wallace, "Racing with a Storm," *Prince of India;* Victor Hugo, "The Gamin," *Les Miserables.*"

Dramas: "Julius Cæsar," "Merchant of Venice;" Rostand, "Cyrano de Bergerac;" Phillips, "Ulysses."

VI. *Technique.*— All that goes to the opening up of the channels of expression; the physical side of expression; how to do things. The mastery of technique — by expression, by imitation.

1. Gesture: This mode of expression involves the whole body, and demands health, physical freedom, and responsiveness. Special exercises for carriage and bearing, breathing, resting, for freedom and control, are, therefore, a part of the preparation for oral expression. The body is an instrument, and physical health and freedom determine, in a large measure, the possibilities of expression. Delsarte says: "Strength at the center, freedom at the surface, is the true condition of being."

Gesture a universal language, modified by nationality, temperament, and habits of life. Function of gymnastics as a preparation for expression. Gymnastics which have the forms of expression. Movements which express fatigue or physical weakness; movements which are the spontaneous expression of thought and emotion. Pantomime the expression of thought and feeling by bodily movements. Bearings, attitudes, inflections. Poise: relation to health, to expression; the greater the activity the greater need of poise; abnormal nervousness not intellectual intensity; poise means calmness in activity. Sitting, standing, walking. Good positions in seat-work and recitations. Exercises, plays, and games for making good carriage of body habitual. Rhythmic movements to music. Energy. Relation to health and expression. Control and direction of energy.

2. Voice: Power and significance of the voice in spoken language. Voice quality and intonations the expression of character, of emotional life, and of physical conditions. Voice in speech and song. Comparative ranges, extension of tone, and speech melody, and influence of the inflections of the speaking voice on dramatic singing. Training the ear to distinguish voice quality. Management of breath. Force, pitch, quality, inflection, accent, emphasis, pause, rhythm, purity, flexibility, responsiveness. Care and management of children's voices; abnormal voices.

3. Speech: Is there a standard English? How determined? Provincialisms; dialects. Training the ear to recognize speech qualities, to discriminate the elements — vowels, glides, and consonants. Bell's vowel and consonant tables. Training the speech organs. Formation of vowels; articulation of consonants. How shall the child be helped to speak good English? Phonics, and drill upon words. Habits of speech. The most economical way of correcting bad habits. Cause of speech defects; (*a*) Defective hearing. (*b*) Abnormal conditions of mouth and throat, such as enlarged tonsils, adenoid growths, narrow arch, mouth breathing, tongue-tie, and defective arrangement of the teeth. (*c*) Imitation of speech defects. (*d*) General nervous conditions. Diagnosis and treatment of speech defects. Value of such knowledge to the teacher. (See COURSE OF STUDY, Vol. I, p. 299.)

VII. *Exercises.*— History and significance of the great festivals common to the race —Thanksgiving, Christmas, Easter. National festivals and holidays—Washington's and Lincoln's birthdays, Memorial Day. Educational value of morning exercises. All exercises should grow out of the work of the school, and should be the culmination of study in some subject. Use of art, music, and literature in these exercises. Basis for arrangement of programs. Suggested programs. (See ELEMENTARY SCHOOL TEACHER, Vol. II.)

VIII. *Value of dramatic training for the teacher.*— Imitation is a potent factor in education. Action is one of the first things imitated. The teacher's habits of sitting, standing, walking, breathing, habits of speech, quality and use of voice, are imitated by the child. You may tell a child to sit up, to stand up, or to walk erect, but if *you* do not sit up, stand up, or walk erect yourself, your precept falls upon deaf ears. Gesture is truth to the child. He does not *hear* what you *say*, he *sees* what you *do*.

Effects of the teacher's voice upon the child's voice, and upon his moral nature. If the teacher's English speech is provincial, she cannot by any precept teach the best English. If the children are to read well, the teacher must have a deep-seated, abiding belief in the educative value of this mode of expression.

If the teacher does not spontaneously use voice, hand, face, and body in expression of thought, the children will become as narrow, as restricted, as wooden, as unexpressive, and as uninteresting as she is herself. If the teacher undervalues emotion and does not see its direct relation to thought, the children will soon learn to think that emotion must be concealed. The child reflects not only what we are, but also our ideals. The teacher should be able to interpret literature, and so create an ideal of genuine expression and a public sentiment among the children which demands the best in expression. She should be able to interpret the child, in a measure, through the bearings, attitudes, and inflections of his body, through the quality of his voice and his habits of speech. Other things being equal, the teacher

with dramatic power and dramatic training is a better teacher of any subject than one limited in this power and training.

ART

ART IN RELATION TO HISTORY AND LITERATURE.

JOHN DUNCAN.

I. CONTEMPORARY HISTORY.

THE object of this course is the study and the recording of the life going on about us. The child spontaneously attempts to picture this life, draws engines and ships and bridges and people engaged in every occupation. The course is planned to fit the teachers for the work of directing and developing this child art.

Streets and traffic: street-cars (trolley, cable, elevated), wagons, carts, cabs, automobiles, bicycles.

Foot-passengers: the postman, policeman, popcorn-man, fruit-vender, coal-man, newsboy, peddler.

Architecture: stores, post-office, library, museum, picture gallery, theater, bank, asylum, hospital, church, schoolhouse, bridges, tunnels.

Homes: occupations of home, children's games.

Gardens, parks, playgrounds.

Railways and railway stations, locomotives.

Ships and shipping docks.

Soldiers, barracks.

Factories (spinning and weaving), potteries, foundries, workshops (carpenter's, blacksmith's, tailor's, shoemaker's).

House-building, stone-cutting, paving.

Foreign areas — racial types.

Materials for this work: drawing pencil, fountain pen, water-colors, sable brush.

II. LITERATURE.

Our subject-matter will be drawn from three sources. During the first two weeks we shall be occupied with the fairy stories that are the delight of the very little folk. The next two weeks we shall take up the Greek stories, which are more suitable to the older children; and the last two weeks we shall turn to mediæval legends, which chime with the condition of soul of adolescence. The students will work up the subject-matter in the library, and among the pictures in the school collection.

That is to say, they will: (1) get up the spirit of the story; (2) study the archæology of the subject — costume, architecture, furniture; (3) refer to casts, picture-books, and to the school collection of pictures, to fill up their mental picture, and to suggest and help out with a proper technique.

They will also make rapid sketches from one of their own number, who will act as model, and who will assume a pose or costume on demand. This function of model they will discharge in rotation.

Materials needed for this work: soft drawing pencil, pad of water-color paper, sable brush, water-colors.

PAINTING AS A MEANS OF IMAGING.

JOHN DUNCAN AND ANTOINETTE B. HOLLISTER.

Expression in all its modes is a fundamental means of imaging. The results of expression, then, are to be looked for in mind-growth, and not in the forms of expression. Color is the emphasis and synthesis of forms. Painting is one potent means of studying landscapes. In a typical area of land may be found (1) surface (physiography); (2) vegetation (botany); (3) animal life (zoölogy); (4) clouds, sky, states of atmosphere (meteorology). All these things are in the closest interrelation, each thing depending upon all the others, as in the field study of plant life (ecology). The student, brush in hand, comes in contact with a typical landscape; colors bind the area into one whole, and the whole landscape is the simplest object to be painted. The painting demands close observation. The observer goes naturally from wholes to parts. The painting may be very crude, but if it is genuine, it is good; it expresses in some way the image "seen within;" it is the basis and beginning of better work. Here the careful critic is needed to suggest the main things that the student does not observe. Then comes a new trial. Painting reacts upon and enhances the growing image. The rule is, "Go from wholes to parts": the entire landscape, then a ravine, dune, tree, or shrub; from tree to branch, twig, leaf; keeping in mind the relations.

1. *Outdoor sketching* (field excursions).— (1) Typical landscapes painted

as studies of physiography, geology, botany, zoölogy, and meteorology. (2) Parts of selected areas — hill, valley, dunes, ravines, cliffs, lake, shore; work of waves, winds, etc.; swamps — vegetation, animal life.

II. *Schoolroom work.*—On return from field excursions the landscape paintings will be repeated, of course without the presence of the objects. (1) Specimens collected on field excursions studied and painted. (2) Painting of roots showing adaptation to varying conditions of moisture. (3) Foliage, its adjustment to light, moisture, and temperature; function of color. (4) Structure of stems: (*a*) stems that resist strong winds; (*b*) trunks of trees; (*c*) aquatic plants; (*d*) underground stems; (*e*) cross-sections of stems.

III. *Interrelation of plant and animal life.*— Dependence on soil, moisture, and climate. (1) Plants affected by animals. (2) Nature's devices for the protection of plants. (3) Color as a means of protection.

From the æsthetic side we may regard the landscape as a conglomeration of lines, tones, and colors from which the artist selects those which best express his subject-matter, and at the same time are in accord with each other and with his own spirit. Lines, tones, and colors affect the emotions much as do musical or unmusical phrases. It is necessary to consider these æsthetic relations, that the feeling aroused be appropriate to the subject-matter, and that the proper impression be produced with the greatest economy of means.

We must study to bring the landscape within the means at our disposal. For example, we must simplify the infinite variety of nature. The paint box will not permit us to render the intensity of tones as they appear to the eye. They must be transposed, and lines, tones, and colors must be arranged for our æsthetic purposes.

CLAY-MODELING.

ANTOINETTE B. HOLLISTER.

THE greater part of the course in clay-modeling will be illustrative of the work done in science, geography, history, and literature. Through the manufacture of pottery the student will enter more fully into the industrial side of primitive and modern life. The modeling, decorating, and glazing of pottery will all be done in the school. This work will involve a study of design and will offer a large field for original work.

Historical scenes will be represented in the "round" and in low relief. These modelings will be cast in plaster or baked in the kiln. The casts may or may not be colored. Literature will be illustrated in the same way. Animals and insects will be modeled, and studies will be made of their homes and habits.

Some modeling of the flora of the region selected for investigation will be done, showing the adaptations of the plant to its changing environment, and recording its growth under different conditions.

Should they be required, relief maps will be made in connection with the geography.

CHALK-MODELING.[1]

IDA CASSA HEFFRON.

IT will be the purpose in these lessons to lead the teachers to form vivid, definite images of typical features of the earth's surface, and to acquire the power to sketch easily and rapidly such features on the board and on paper. The materials used will be: blackboard and chalk, pencil and paper, and charcoal.

Clay- and sand-modeling will be used as a preparation for the chalk-modeling; the different landscape forms and surface features will be studied from descriptions, photographs, pictures, stereopticon views, maps, and from models. Many of the features — for instance, river valleys, bluffs, beaches, ravines, and sand dunes — can be studied and sketched on the field excursions planned by the geographic department. Hints also will be given on the use of putty, and the making of plaster casts of maps in relief.

The first topic for consideration will be typical surface features and landscapes characteristic of the continents, such as plains, mountains, rivers, glaciers.

The next topic for attention will be pictorial or panoramic representation of larger sections of surface, as, for instance, river basins, mountain chains, plateaux, bird's-eye views of the

[1] This outline has been adapted largely from Mr. Thorne-Thomsen's syllabus of last summer.

continents, etc. The sketches under this head, by combining the features studied before into larger units of surface, form a compromise between map and picture, and serve as an introduction to the next topic, that of relief maps.

After a careful study of the most important features under I and II, the teachers will be prepared to begin the making of relief maps, Topic III.

The last topic relates and applies the work of the previous topics to the study and teaching of the continents; it thus serves the purpose of a review of the whole subject.

DETAILS OF OUTLINE.

PRINCIPLES OF CHALK-MODELING — TECHNIQUE.

NOTE. — This part of the outline will not be taken up as a separate topic, but will be related to and discussed with the other topics.

CHALK-MODELING AS A MODE OF EXPRESSION.

Aim to describe, through the medium of chalk or charcoal, geographic features scientifically, rapidly, and at the same time artistically. This is possible where there is intense interest, a definite motive, and clear images, accompanied with feeling.

1. Chalk-modeling as a representation of mass; significance of term "modeling" (relief); use of lines in analysis of landscape. Economy of time and effort.

2. Composition: essentials and non-essentials.

3. Direction: Relation of slope of surface to direction of line: (*a*) Rolling surface — hills, waves. (*b*) Sloping surface — valleys, volcanoes, mountains. (*c*) Level surface — plain, beach, flood plain with winding river. (*d*) Steep surface — bluffs and cliffs, falls. (*e*) Combination of horizontal and vertical surfaces — buttes, mesas, plateaux; cañons and fiords; flood plain with bluffs.

4. The landscape seen from different points of view. (*a*) Perspective: atmospheric effect; diminution of size, convergence of lines, and foreshortening; the horizon line; details of foreground; color values, light and shade, shadows. (*a*) Compare use of white material on board, black material on paper.

5. How to show texture of surface: (*a*) Stratified and unstratified rock. (*b*) Alluvial, sandy, and rocky soil. (*c*) Cultivated and uncultivated ground. (*d*) Surface of water, ice.

6. Analysis of characteristics of landscape. (*a*) Slopes; angles of slope; concave and convex surfaces. (*b*) Curves, as beach curves, river curves. (*c*) Natural lines: meeting of surfaces; divides, shore-lines, drainage lines, sky-line. (*d*) Means of showing height, dimensions, magnitude.

I. SURFACE FEATURES AND LANDSCAPE FORMS TO BE CHALK-MODELED.

A. *Coast scenery.* — (1) Waves and breakers. Capes, cliffs, stacks ; reefs and islands ; isthmuses ; beaches, raised beaches ; caves ; sand dunes ; spits, bars, lagoons ; bays, estuaries, sounds. (2) Rising and sinking coasts, partly drowned coasts. (3) Appearance of coast-line according to stage of development. (4) Topography of lake flats, Chicago area as a type. (5) Artificially protected coast, harbors, piers, breakwater ; lighthouses ; wharves. (6) Types of boats.

B. *River scenery.* — (1) Landscape characteristic of upper, middle, and lower course of a river. (2) Deltas and alluvial fans ; bars, banks, islands ; terraces ; types of waterfalls, lakes. (3) Types of valleys, gaps ; forms of river erosion of dry or wet plateaux. (4) Successive stages in the wearing down of the land ; youth, maturity, old age (cycle of denudation). (5) Human features connected with rivers, as embankments and levees ; irrigation canals ; dams, locks, bridges. (6) Boats. (7) Underground water: caves, sinkholes, springs ; geysers ; natural bridges.

C. *Glacial scenery.* — (1) Types of glaciers ; valley glacier, continental glacier, Piedmont glacier. (2) Topographic features of glaciated country ; valleys channeled by ice, fiords, cirques. Glacial lakes : rock basins, Swiss lakes, Scotch lochs ; morainic lakes. Moraines and drumlins ; kames and eskers ; islands. Glaciated rock-floor with bowlders. Icebergs.

D. *Mountain scenery.* — (1) Types of mountains : mountains by folding — Jura, Alps ; block mountains — Oregon ridges, Sierra Nevada ; mountains by denudation — table mountains, Scandinavian mountains ; laccolitic mountains. (2) Characteristic features of mountain scenery : (*a*) Types of peaks — needles, horns, domes — Castle Craigs, Mätterhorn, Pike's Peak. (*b*) Ridges — Alleghany ; ranges — Bernese Oberland ; systems, chains, cordilleras. (*c*) Valleys — longitudinal, transverse ; parks, mountain pass, cirques, edge (*Kamm*). (*d*) Snowfields, glaciers, torrents. (3) Young, old, worn-down mountains (Monadnocks). (4) Volcanoes : (*a*) Lava cone, ash cone. (*b*) Famous volcanoes: Vesuvius, Stromboli, Mt. Shasta, Chimborazo, Fuji-san Mauna Loa. (*c*) Crater lakes, caldera ; volcanic necks, dike. (5) Plateaux : young plateau, deeply dissected plateau, mesa.

E. *Landscape as affected by climate.* — (1) Desert, oasis ; tundras, arctic landscapes ; steppes and prairies ; tropical forests, jungles, savannas ; temperate forests ; swampy country ; cultivated surface, fields of grain, corn, rice. (2) Trees and plants which have a determining influence on appearance of landscape, as conifers, palms, cactus, mangrove trees. (3) Cloud forms.

F. *Surface features determined by climate.* — (1) Waste slopes and fans. (2) Bad Lands. (3) Topography of interior basins, salt lakes, salinas, playas. (4) Sand dunes of the desert.

G. *Ocean.*—(1) Appearance in quiet, in storm. (2) Arctic sea, floe ice, pack ice, icebergs. (3) Oceanic islands, volcanic and coral islands. Sea bottom with corals. (4) Types of vessels.

II. PANORAMIC VIEWS.

(1) River basins, plateaux, cordilleras, interior basins, cross-sections. (2) Bird's-eye views of the Mississippi basin, the Great Basin, Abyssinian plateau, Nile basin, plateau of Thibet. (3) Of North America from north to south, east to west.

III. MAPS.

(1) Function of chalk-modeled map compared with other maps. (2) Difference between map and picture. (3) Relief maps in sand. (4) Steps in making a chalk-modeled map; question of light and shade; unity of surface; gradation of color as to elevation; contrast of color; elimination of details; fallacy of making a flat surface with highlands superimposed. (5) Map representation of main features of a continent, as river basins, plateaux, mountain chains, hills. (6) Maps of the continents on the board and on paper. (7) Special maps: Egypt, Greece, Italy, India, China. Map of the Chicago area.

IV. PARTICULAR STUDY OF THE CONTINENTS — NORTH AMERICA AND EURASIA AS TYPES.

(1) Map of the continent, sectional maps. (2) Panoramic views. (3) Forms of landscape characteristic of the physiographic areas. (4) Important scenic features of the continent.

The different surface forms will be considered from the point of view of form, and as factors in determining appearance of landscape. The full discussion of these features with regard to their formation and geographic significance will be given in the course in geography.

The detailed outline above is suggestive of the work to be done in chalk-modeling, and offers material for the selection of the teachers; it may not be taken up in its entirety, or followed in the order indicated, but will be closely related to the lessons in geography.

TEXTILES.

CLARA ISABEL MITCHELL.

THE course in textile arts combines handwork, laboratory study, and discussion of a correlated course of study.

Students registering for this course are advised to take the correlated courses in nature study, history, geography, and applied pedagogy, offered by the faculty of the School of Education.

In discussion, the textile arts will be taken together as a fundamental race-activity, and will be considered pedagogically as (1) manual training; (2) industrial art; (3) applied science; (4) a means to the better interpretation of history and present social conditions.

1. *Manual training.*—Discussion of a course of study in spinning, weaving, sewing, and pattern-drafting for the elementary school, as outlined in the ELEMENTARY SCHOOL TEACHER AND COURSE OF STUDY, Vol. II, Nos. 7, 8, 9, 10. Instruction in the making of models for use in the different grades. Weaving of holders, small wool rugs, rag rugs, bags, and linen crash, on frames and looms. Making patterns and sewing of dust cloths, towels, aprons, caps, clothing for a large doll, and costumes for school plays or history studies.

2. *Industrial art.*—Weaving of rattan, raffia, splint, palmetto, and grass baskets. Design and stitching of pen-wipers, bags, belts, and scarfs in cross-stitch, outline, and satin-stitch.

3. *Applied science.*—(1) Dyeing of cotton and wool yarns, and of basket fibers. Use of the natural dyes—indigo, logwood, madder, fustic, turmeric, Brazil-wood, cudbear, and cochineal. Tests for dyes. (2) Study of fabrics; classification with regard to use; fitness to use; analysis; chemical tests for recognition of the different fibers. (3) Study of fibers; quality dependent upon culture; soil, climate, care, and social conditions essential factors. (4) Processes, plans, and models of spindles, weaving frames, and looms; excursion to mill for observation of steam-power Jacquard loom; preparation of process cases for school museum. Maps and pictures showing areas of the production of each of the textile fibers; markets; centers of manufacture; routes of transportation.

4. *History.*—Excursions, models, pictures, stories, and reading lessons which illustrate and help to explain the inventions of textile machinery; primitive processes; improvement of machines through need; change from home industry to factory system; the noted textile art-crafts of the past and the present; biographical sketches from the lives of inventors.

REFERENCES: Fischbach, *Textile Fabrics;* Rev. Daniel Rock, *Textile Fabrics; Tapestry; The Industrial Arts*, published by Chapman Hall; *Oriental Carpets*, published by the Royal Museum, Austria; *Oriental Rugs;* Roberts Beaumont, *Woolen and Worsted Cloth Manufacture;* T. F. Bell, *Jacquard Weaving and Designing;* Richard Marsden, *Cotton Weaving; The Cotton Plant*, report United States Agricultural Department; *Useful Fibers, ibid.;* Peter Sharpe, *Flax;* Jonathan Ruegg, *Silk;* Bowman, *Structure of Wool Fibre;* J. Merritt Matthews, *Smithsonian Report No. 6,*

"Textile Chemistry;" Hummel, *Dyeing of Textile Fabrics;* Chevreul, *Theory of Coloring;* Tylor, *Primitive Man,* and *Early History of Man;* Joly, *Man before Metals;* Mason, *Woman's Share in Primitive Culture;* Kellar, *Lake Dwellings of Switzerland;* United States Ethnological Reports; "A Suit of Clothes," *Harper's,* Vol. LXXX, p. 685; Nadillac, *Stories of Industry;* Yeats, *Commerce and Industry;* "Wool," *Johnson's Encyclopædia; Murche Science Reader;* Archer, *Wool, Flax and Linen;* Chase and Clow, *Stories of Industries,* Vol. II; Earle, *Home Life in Colonial Days.*

WOODWORK.

COURSES VI AND VII.

ANNETTE BUTLER AND ELIZABETH EUPHROSYNE LANGLEY.

THE manual-training department offers a course in woodwork for the grammar grades, and a course for the primary grades. The object of these courses is to present to the teacher conditions for obtaining the greatest amount of skill possible in the given time, and to consider the aims of educational manual training and the methods of carrying on the work. For the acquisition of skill, a series of models has been planned, with the purpose of presenting a number of exercises involving the use of all the common woodworking tools. The attempt has been made, also, to arrange a progression of difficulties which shall keep pace with the increasing power of the worker.

This particular set of models is not intended to serve in any way as a basis for a woodworking course for children, but for help to teachers in planning work for their own pupils, definite suggestions in the form of drawings and descriptions will be furnished.

Each member of the class will be asked to make a design for each of several objects which will be suggested by the teacher or by the class itself. These designs will be looked over with the class, and criticised from the structural and the artistic point of view.

The greatest emphasis will be placed upon the relations which the hand-work should sustain to the other school activities, especially in the primary grades.

Taking this point of view, we see that one employment of hand-work may be in constructing apparatus for carrying on

other lines of work; another, in decorating the class-room or making it more comfortable; and a third field is opened in the use of constructive hand-work as a means of illustrative expression, in the same manner in which clay-modeling and painting are used. The use of hand-work in this manner will be carefully examined and discussed.

The last and broadest field for the use of hand-work is in making the occupation itself the basis for a grade's work, and working from it as a center to those subjects which touch it intimately. This plan also will be illustrated and discussed.

In all the hand-work, the working out of the number and drawing connected therewith will be given prominence.

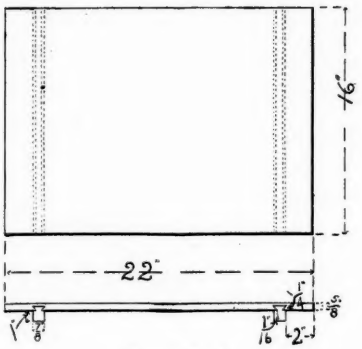
I. The history of the manual-training movement. (1) The growth from the industrial to the educational ideal.

II. The aims of manual training as a factor in education. (1) Training in motor control. (*a*) Importance of the hand as organ of the mind. (2) Effect upon character of the child. (*a*) Growth of will through voluntary activity. (*b*) Self-reliance arising from consciousness of ability to do. (*c*) Concentration, attention, honesty of effort demanded. (3) The child is given opportunity to direct his efforts toward concrete ends which intimately concern his own life. (4) Training in reason and judgment in selecting and adapting means to end. (5) Training of the artistic sense in appreciation of form, symmetry, proportion. Adaptation of design to function

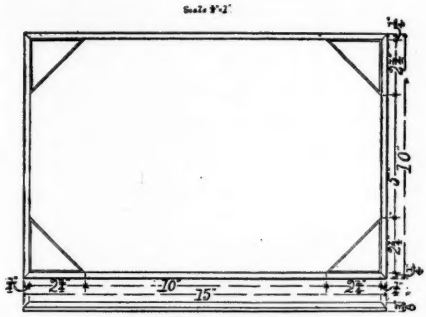
III. The principles are: (1) Effort to find a working basis in manual training. (*a*) Course of technical exercises. (*b*) Course of useful models—illustration of these courses by various systems of manual training. (*c*) The real needs of the child, either in school or home. (*d*) The interrelation of hand-work and other school occupations as a basis. (2) The problem of so arranging work upon the last two bases mentioned that increasing motor power shall result. (3) Extent to which child's initiative shall be followed in selecting and designing things to be made. (4) The proper time in the child's life for most effective hand-training. (5) The kinds of movement which make for best motor training. (6) Degree of skill and accuracy which should be expected. (*a*) Basis for criticism of product.

IV. The use of number and geometry in manual training. (1) Demand for use of fundamental operations of number. (2) The ability to estimate magnitudes through constant measuring. (3) The demand for geometrical constructions.

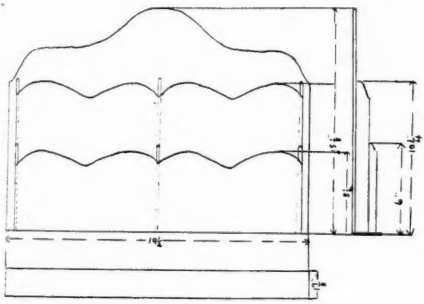
V. The use of drawing in manual training. (1) Free-hand sketches. (2) Orthographic projection and its application to working drawings. (3) Geometric projection. (*a*) Principles of geometric projection. (*b*) Where this form of drawing is most advantageously used.

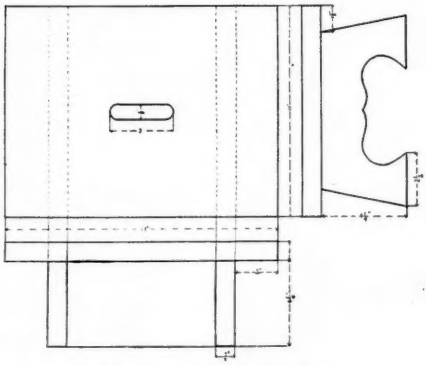


Drawing Board.



Blotting Pad. Popular.





Foot Stool. Popular. Edna Hort

Letter File
Ora Blon

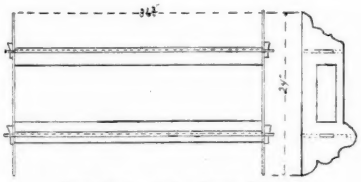


Plate Rack. Oak. Bertha Schenck

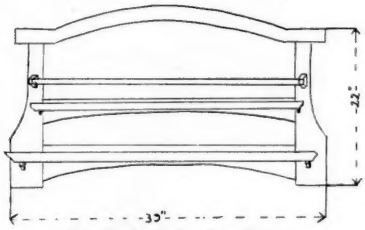
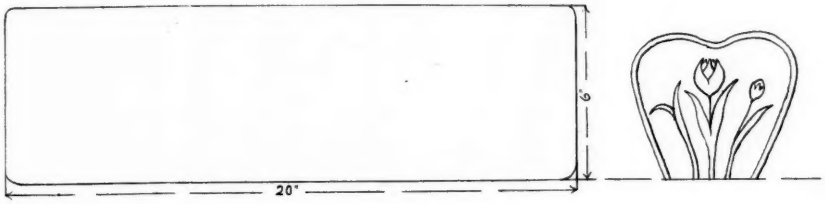


Plate Rack. Oak. Alice Hosmer



Desk Book Rack Cherry

VI. Study of construction and design in wood. (1) Limitations resulting from structure of material. (2) Methods of construction best adapted to various purposes. (3) Beauty due largely to correct proportion and construction. (4) Kinds of wood best suited to various purposes.

VII. Ornament in woodwork. (1) Use of ornament. (2) The problem of suiting the ornament to the material, function, and construction of the object to be decorated. (3) Practice in decorative designing, in wood-carving, staining, and marquetry.

MUSIC.

ELEANOR SMITH.

NOTE. — Owing to Miss Smith's absence from the country, it is not possible to print the syllabus of her course. Her course will include, however, actual training in singing and a theoretical review of the field of school music; a critical study of songs; interval work; sight-singing; part-singing; grading of songs; and voice-training.

PHYSICAL TRAINING.[1]

CARL J. KROH.

COURSES X AND XI. THEORY AND PRACTICE OF SCHOOL GYMNASTICS.

COURSES in general gymnastics, with especial reference to the class aims embodied in the general scheme of gymnastics in the School of Education. The correlation of gymnastics, of free exercises, and forms of apparatus gymnastics. The study of purposive and effective training on the basis of gymnastic knowledge derived from the study of the structure and functions of the human body. The interpretation of individual needs and qualifications. The application of gymnastic principles to school recreation; the direction of plays, sports, and games.

SYNOPSIS.

1. Scope and spirit of physical training as an educational discipline: Nature of physical training and its effects on the body, the will, and intelligence. The physiology of symmetry, form, and balance. General and specific considerations in a scheme of graduated school gymnastics.

2. Relations of anatomy and physiology: The tissues and their development. Organs and functions. Form, structure, use. Osteology; origin and growth of bones. Divisions of skeleton. Names and description of bones.

[1] It is not possible to print the syllabi of Courses 13, 14, and 15, but the courses will be given as announced.

Elevations, depressions, perforations. Periosteum, blood vessels, cartilage. Articulations and classification of joints and bones. Form and extent of movement. Union of muscle and bone.

3. Myology: Classification of muscles; structure, form. Contraction, relaxation. The relation of nerve and muscle. Location of muscles; origin, insertion; mode and extent of action.

4. Physiology of nerves, of circulation and respiration: (See Courses 1 and 12, Department of Physiology.) Interpretation of effects of ordered procedure in gymnastic training on structure, function of organs, health. Tests for heart and lung conditions.

5. Instruction, training: Distinctions between healthful, orderly, and pleasurable gymnastic training, formal drill, and mere pleasurable activity for the sake of recreation. Concentration of mind upon purposive action, contrasted with mere spontaneous and involuntary play-action. General effects of systematic gymnastic training upon school work, in comparisons of group or class work, in general movement, control, and attention. Suggested appropriate and interdicted forms of exercise for school and home practice.

GYMNASIUM WORK.

(Supplementary to Course 10.)

Tactics.— Economy of movement; co-operation for definite purposes in gymnastic work and play. Orders of formations, re-formations, and transformations, involving massing, distancing, and evasion, by stepping, marching, halting, and turning, according to fundamental rules.

Free exercises.— Emphasis of distinct and progressive grade aims Factors determinative in a selection of exercises; modifications of orders, form and kind — construction; appropriate demands in co-ordinate activities. Importance of movement forms occurring in forms of applied gymnastics. Systematic practice of typical running and springing exercises, preparatory to elementary apparatus and field work. Movements and exercises in kneeling, sitting, lying, and stem-supporting positions. Tacto-gymnastic exercises. Dancing calisthenics.

Applied resistance.— Specific dumb-bell and wand exercises; extension exercises with elastic bands; use of balls, sacks, etc.; pole and ring exercises; Indian club-swinging exercises.

Elementary apparatus gymnastics.— Practical equipments. Methods of class work; group work. Gradation of pupils. Development of jumping, vaulting, and climbing exercises; uses of jumping apparatus, vaulting machines, vertical and slant ropes and poles; horizontal, slant, and vertical ladders, bars, etc.

School and field games.—Active, passive, and rest games. Games for the promotion of heart and lung action; active outdoor running games requiring most physical activity. Gymnastic plays for the cultivation of

the play-spirit; pleasure in moderate action; short competitive games. Games requiring superior physical and mental qualities; the exercise of skill, dexterity, the qualities of endurance.

COURSE XII. GENERAL AND APPLIED GYMNASTICS — ADVANCED COURSE.

The application of the results of scientific investigation to the needs of the normal body. The pedagogy of gymnastic instruction. The processes involved in progressive gymnastic development, and the methods for reinforcing progress; sequential order and construction in advanced work; the technique of execution, form.

The correlation of school gymnastics with school work in general. Organization, direction; co-operation of teachers. School plans, involving progressive aims from the kindergarten through the high school. Practical school anthropometry, including physical tests, measurements, and inquiries to determine condition. The adaptation of developmental measures to class and group work and in individual treatment. The adaptation of typical sports and games. The regulation of organized recreation in play-grounds. School field days. Planning of indoor and outdoor gymnasia. Presentation of a year's gymnastic curriculum.

PRACTICE.

This course will present a survey of progressively arranged material under the following heads of general gymnastics: (1) tactics; (2) free gymnastics; (3) light gymnastics — hand apparatus; (4) apparatus gymnastics; (5) games, plays, sports; antagonistics; (6) athletics; (7) special work — fencing, etc.; (8) remedial work.

Under "tactics" is included a study of the relative positions and movements of the individual and the group; the composition of gymnastic marches and roundel figures.

In free exercises and tacto-gymnastics, as well as in apparatus gymnastics, the German method of conducting class and group work will be illustrated.

The development of the higher organized gymnastic games, with especial reference to their adaptability to all grades, will form a part of the regular program.

Athletics, outdoor exercises, field sports, antagonistics, will be considered with reference to their legitimate uses on the school grounds.

Defensive exercises, as fencing and boxing, preparatory to special practice, are included under (1), (2), and (3).

Work designated assistive, resistive, co-operative, as physical work without apparatus, implies the reliance of gymnasts upon each other in the execution of exercises, assistance or resistance being required of one or the other, or several, according to the purpose intended. The substitution of pupils in lieu of gymnastic apparatus includes work under this head.

Æsthetic, "artistic," gymnastics find their highest expression in gymnastic compositions and "roundels," suggestive of interesting "themes." They include tactics and activities illustrative of definite gymnastic thought, generally accompanied by music or singing.

Fancy steps are derivations of the forms of exercise occurring under (1) and (2), with rhythmic changes in execution. In their execution the body as a whole participates, as in walking, gliding, skipping, hopping, bounding, etc. They are considered in their regular place in the order of adaptations.

Remedial work, a special form of work, is applied to defective and nervous children. As corrective work, it includes work for most ordinary defects superinduced by forced durance in schools, etc. It consists of movements, free exercises, standing, sitting, lying; of assistive and resistive work, carefully adapted and prescribed with reference to individual needs.

The psycho-physiological order and pedagogical values of the work will be discussed, and, in a measure, ascertained through demonstrations in class work. The study of new and complete co-ordination problems occurring in advanced free and light gymnastics, as well as apparatus work, will be based on the orders determined in these demonstrations.

FUNDAMENTAL GYMNASTICS.

A preparatory course for primary and grammar teachers, presenting the fundamental principles of educational gymnastics.

Order, analysis, and technique of free exercises. Methods of instruction. Adaptation of training to independent formulation of work outlines. Gymnasium practice in tactics, tacto-gymnastics, and free exercises, and the simpler organized games and plays for indoor and outdoor recreation.

SYNOPSIS OF DISCUSSIONS AND PRACTICAL WORK.

Discussions.— 1. The educational and hygienic aims of gymnastics. Free movement-exercises—an efficient means of thorough physical training; fundamental to all gymnastic procedure.

2. Growth and development during the school age. Postural and movement characteristics and tendencies. Analysis.

3. Ordered procedure in the cultivation of movement concepts. The selection of appropriate forms of exercise; the development of typical, and use of auxiliary, forms. Methods of progress, as determined in perceptible results. Estimates of condition, energy, control, skill. Age; sex; temperament.

4. Survey and valuations of gymnastic material; adaptation to the various ages.

Practical work.— 1. Individual, group, and class practice in gymnastic tactics, to facilitate quick and concerted action. Modes of movement in and from place. Alignments, step, rhythm, etc.

2. Order of movement-forms, and exercises in free gymnastics, constituting regular lesson-orders. Construction, adaptation. Mechanical laws governing positions, equilibrium; gradation of muscular resistance in motion and locomotion. Weight, force, space, etc. Movement analysis.

3. Plays and games based on sense-perceptions; for lowering reaction-time between definite perceptions and actions: for ability to recognize advantages, and to follow most practical procedure — reaction of one of several sense-perceptions through most practical action suggested. Games requiring quick discernment, judgment, action. Characteristic school games for boys and girls.

4. Study of statistics of standards of physical development; application to school needs.

MODEL-SCHOOL COURSE.

The grammar-grade work will embrace free-standing exercises, illustrating the different methods of gymnastic development. Appropriate procedures with references to demands, as warranted by the pupil's proficiency and power to follow gymnastic development, will be a distinct feature of the series.

The gymnasium work will be characteristic of work for boys as well as girls, and of work adapted to mixed classes. It will include free-standing, marching, and running exercises; ditto with use of hand apparatus, as poles, wands, dumb-bells, Indian clubs, sacks, etc.; also elementary-school gymnastics on apparatus, ladders, poles, rings, bars, etc.; the development of jumping and vaulting exercises on vaulting apparatus. Lessons in the gymnasium conclude with appropriate games and plays.

SPECIAL.

Teachers merely in quest of personal improvement and recreation, who wish to avail themselves of the opportunities

offered in part periods of the supplementary and advanced courses, have the privilege of forming special groups, and thus entering into the active physical training and recreative work of these courses. Ladies are required to wear the regulation gymnasium costume, blouse and divided skirt (dark flannel preferred). All participants, including pupils, must be provided with gymnasium slippers.

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FRENCH.

LORLEY A. ASHLÉMAN.

COURSES I AND II. THE PEDAGOGY OF TEACHING FRENCH.[1]

THE discussions in these courses will be based upon a close observation of the child's life, and of his interest in his games,

[1] These courses are given as majors during the first and second terms, instead of minors during the second term, as was announced.

his study, and his recitations. The student will compare the results of his own observation with the conclusions reached in the general discussions.

For convenience, subjects of discussion have been grouped together.

Conditions.—The sense impressions: sight, sound, taste, smell, and touch. Visualization; comparison of two images.

Expression.—The function of expression is imaging. The relation of observation to expression. Use and limitations of painting, drawing, and modeling.

Writing: its function and place; technical treatment.

Reading: the function of reading in language study; its relation to observation; learning to read; technical treatment; the study of good reading matter selected from the course outlined below; objective language; subjective language; figurative language.

Study.—Notes of study. The purpose of study; essential conditions for study; the use and limitations of books in study; the personal element in study.

Recitation.—The purpose of the recitation; necessary preparation; the mutual relations of the class and the individual in recitation; the function of the teacher in recitation; general plan of the recitation; common errors.

Criticism.—The basis upon which a class should be judged; the basis upon which a teacher should be judged; the proper modes of testing pupils; results that may be taken as a trustworthy basis for judgment; moral aspects of the language study; formation of the individuality; general culture; freedom from prejudice; tolerance; broad-minded patriotism.

Home and school as places of activity.—Activities of plants and animals; the atmosphere; social relationship; relation of different nationalities; colonization; human development (history).

A COURSE OF STUDY IN FRENCH FOR THE GRADES.

DISCUSSION.

I. Should teachers study modern languages?

"The study of a language extends our acquaintance with human nature, broadens our horizon, by giving us new ideas and more independence in our judgment of nations.

"Familiarity with foreign literature tends to destroy national prejudice by unfolding, as sanctioned by enlightened communities, principles of conduct, morality, and politics, differing from those we have been accustomed to regard as exclusively correct; it guards us from attributing universally to human nature tastes, feelings, opinions, and motives of action which belong only to our age and country. It brings us nearer to truth, by the examina-

tion, in different lights, of the various departments of knowledge. In short, exemption from prejudice, tolerance and benevolence to all men, take the place of presumption, intolerance, and narrow-minded patriotism."—*Marcel.*

"Through the idiom of another tongue we are able to understand many ideas and sentiments conveyed by expressions for which there are no equivalents in the vernacular tongue."

It is well to be able to form our own ideas on nations and governments, instead of getting them with the prejudice, ignorance, and error which accompany translations. We do not consider enough how differently the same events are related and judged according to the nationality of the writer.

The language student wishing to give one not understanding the foreign tongue the different lights of another people in the various fields of science and literature must necessarily translate.

"Translation turns the attention to the nature and mechanism of language; and by the constant comparison of two idioms teaches general and particular grammar. Translation enriches the native vocabulary of the learner, and improves his power of composition in the national tongue, by practice in searching for native words and expressions to translate those of foreign authors. The close attention required in translation tends to engrave in the mind the subjects which foreign authors treat."

As depositories of thought languages are a strong auxiliary in the acquisition of useful knowledge. No physician, chemist, or engineer, no scientific man, in fact, can keep pace with the progress of science and art, who cannot avail himself of the discoveries and improvements made by other nations on the subjects relative to his pursuit. If, then, language study helps to the understanding of character, custom, and civilization of men, if it will aid the child in the understanding of general and particular grammar, if it will help the student to get different lights in the various fields of science, is it not important that children should be taught the modern languages, and that the languages should be taught in the best possible manner? Language study generally is such a feeble auxiliary in the acquisition of useful knowledge because it is not a strongly correlated part of the course of study; and just so long as the grade teacher does not understand the foreign tongue, the correlation must be artificial and a pretense. It is important that our pedagogic

students see the correlation of all our work. This is not possible if they have no conception of the foreign tongue. Language work to them is a subject entirely apart.

II. In what grade should the study of language begin?

French is generally so badly spoken because its study is begun too late. The younger the child begins the language, the more natural the method, the better the pronunciation — one of the great charms of the French language. Thus far, in the School of Education, foreign language work has begun in the third grade. Why is this grade chosen? Is there a good reason? The child plays, works with clay and wood, paints, and cooks when he first enters the school. Why should the French wait until he enters the third grade, and thus become in his mind a thing apart? Games, rounds, and songs are as natural to a child in one tongue as in the other. Often the mystery accompanying the new sounds gives even more interest to the game.

OUTLINE OF THE COURSE.

First grade.— Games, songs, rounds, play, and making of playhouse; luncheon.— 1 ½ hours per week.

Second grade.—Games, rounds, songs; preparation and serving of luncheon; sewing; clay-modeling; blackboard writing by teacher last part of term.— 2 hours per week.

Third grade.—Games, rounds, songs; games made from reading and writing; reading of simple stories; writing from memory of songs and games.— 2 ½ hours per week.

Fourth grade.— Study of fruits in connection with the making of jellies; representation by children of grape-gathering in France, French carnival, French Christmas; songs for French festivals; songs dealing with home life; nationalities in Chicago — clothing and food; excursions to places in Chicago which bear relation to French history; French reading lessons on Marquette, La Salle, and Joliet relative to their stay in Chicago; representations by children of dramatic incidents connected with these French explorers.— 2 ½ hours per week.

Fifth grade.— Conversation centering in preparation for luncheon; singing; grammatical text-books made from records of questions asked, and rules arrived at by explanations in third, fourth, and fifth grades; French explorations and settlements; animal life in connection with fur-trading; La Fontaine's fables; reading — extracts from lives of Marquette, La Salle, Joliet; Jesuit relations; Molière, *Le grand Dictionnaire de Cuisine*, d'Alexandre Dumas; representations by the children of dramatic incidents connected with French explorers.— 2 ½ hours per week.

Sixth grade.— French patriotic songs; heroic tales of French patriotism; French Swiss life in mountains; La Fayette; Louis XVI. and Marie Antoinette; Versailles; current French history as recorded in French news-

papers of Montreal, New Orleans, Quebec; representation by children of dramatic incidents chosen from their reading.— 1 ¼ hours per week.

Seventh grade.— French Crusades; Robert le Diable; Guillaume le Conquérant; Renaissance; reading Marguérite de Valois, François I.—1 ¼ hours per week.

Eighth grade.— Reading; histoire; La Gaule; Jeanne d'Arc; Michelet; extracts; Lamartine; Victor Hugo; representations of Les Mystères; de Joinville, Froissart; Les Troubadours — Richard Cœur de Lion; Bertrand de Born; Bertrand de Ventadour; Chanson de Roland; Le Saint Graal.—1 hour per week.

MODEL SCHOOL.

THE KINDERGARTEN.

BERTHA PAYNE AND MARY HOWELL.

THE work and play will be centered around the activities of home life, especially those that tend toward the securing and preparation of food. Some of the allied activities outside the home will be taken up. The children's attention will be directed to the production, transportation, and delivery of foods, chiefly fruits, vegetables, milk, and eggs. This will be begun by letting the children represent their own homes by building, and in other ways. As occasion demands, excursions will be made to a grocery store, a market garden, a farm, a dairy, and to the docks and freight houses.

History.—The homes of the children: Arrangement of rooms, furniture, and equipment of kitchen, pantry, and dining-room, fire making, and cooking. The grocery store, and its means of displaying, selling, and delivering of goods.

Geography.—The routes from homes to school, from the school to the park, to the lake, and to the car tracks, depots, and docks. Transportation of fruit, milk, and vegetables, by boat and train. The direction of the farm, the fruit orchards of Michigan, and the routes of boats coming loaded from Michigan.

The lakeshore and what is found there—sand, pebbles, and cobblestones. The pond in the park, and its shores, contrasted with the lake, the best place for sailing toy boats found.

Nature study.—This will be of the most informal character. Familiarity with many living creatures, interest in some of the less subtle of life processes, and an attitude of nurture and wonder will be the main things to be established. The children will be given something to do for the pets, and something to do with and for plants. The observation resulting from this working with live things will be used to carry the children farther in investigation.

Care, feeding, and watering of pet squirrels and other pets brought to the school. Watering and weeding the garden planted in the spring quarter by the kindergarten children; gathering, shelling, and cooking of peas and beans. Planting lettuce and radishes. In their walks to the park the children will learn to know the more common birds to be found there, and, if possible, their nesting places and nest building. The effect of heat and light upon plants will be noticed, also the amount of water needed by the house plants each day. In the cooking, some facts will be observed. The amount of juice in one lemon; the dissolving of sugar and salt; the boiling point of water; the composition of steam, and many other points will come under close observation, although they will not be treated experimentally or scientifically. The effort will be rather to see *what* happens and *how*, than *why*.

Building.—Houses, rooms, furniture, kitchens in detail, stores, wagons, trains, boats, docks, crates, and boxes.

Making.—Shovel for use in sand pile and at lakeshore; toy wagon of cardboard; boat of wood.

Modeling.—Marbles, dishes, fruits, and tiles for use as tea stands, animals.

Painting and drawing.—Pictures of events seen on the trips and excursions. Illustration of stories. Record of the growth from the seed of radish and lettuce, fruits and vegetables.

Weaving.—Mats of manilla and leatherette for the table; lunch basket of raffia. Slat weaving: Fans for visitors, trellis for climbing plants, fence about farm in miniature.

Folding.—Napkins for the lunch table; paper hats for a party; baskets for flowers; sailboats, rowboats, and toy furniture.

Cooking.—Peas and beans, cereals, candy; making lemonade and fruit salad.

Songs.—E. Smith, "Good Morning," "Sunshine Song," "Setting the Table," "Milking Song," *Songs for Little Children;* "The Woodpecker," *Primer Modern Music Series;* "Garden Song," *Songs and Music of Froebel's Mother-Play.*

Games.—Dancing game, Cat and Mouse, Hide the Stone, ball games, wandering game, Drop the Handkerchief, The Bees' Market.

Stories.—Andersen, "Five Peas in a Pod," "Ida's Flowers," "The Ugly Duckling;" "Fanny's Menagerie," "Lydia Maria Child," *Rainbows for Children;* "Three Beans," "Who Stole the Bird's Nest?" "The Secret," "Cinderella."

Plays.—Dramatizations of stories and plays founded on housekeeping and transportation.

FIRST GRADE.

GARDENING.

FLORA J. COOKE.

THE children in the School of Education planted part of their garden for the use of the children in the summer model school. These children, in turn, after using what they need, will pickle, can, or in some way preserve the (ripe) crops for the use of the children who planted the garden. They will also prepare and leave a window box in the room which they occupy during the summer. They will plan to have the plants in it blooming when the children return to school in October.

This purpose will demand the following work:

1. *Manual training.*—(*a*) Preparing or making of box; partitioning, painting, and making arrangements for draining it; (*b*) making of trellises and vine supports; (*c*) making of measuring tools; (*d*) making of book to leave for the children in the School of Education, in which will be recorded all the facts gained concerning the plants in the window-box.

2. *Science.*—(*a*) Trip to greenhouse to discover which seeds will germinate and blossom indoors within three months; (*b*) study of pictures in books and flower catalogues; (*c*) experiments with sand, loam, clay, and conservatory soil to find which soil is best suited to the growth of the plants selected; (*d*) study of soil conditions and plants in school garden; (*e*) experiments with seeds selected to find out their relation to moisture, heat, and light.

3. *Number.*—Use of simple addition, subtraction, multiplication, and division according to the demands of the work, as follows: (*a*) estimating and sharing of expense involved in preparing the box; (*b*) use of inch, foot, and yard in making of box, trellises, measuring tools, and books; (*c*) work in integers, and such simple fractions as halves, fourths, and eighths; (*d*) use of ounce and pound weights, and of linear, square, cubic, liquid, and dry measures in work on soil and seeds.

4. *Reading.*—Study of blackboard and printed reading lessons correlated with the work. These may be classified as follows: (*a*) those giving needed information; (*b*) those massing and holding together experiences of the class; (*c*) those giving descriptions especially intended to intensify some pleasant experience of the children; (*d*) those giving dictation for work connected with manual training; (*e*) stories.

5. *Expression.*—Records in painting, writing, modeling, and drawing of development of the plants selected. The form of expression used will be determined by the child as his best medium.

NOTE.— The experimental work, and that in reading, writing, and number, will thus be used as direct helps to the children in their immediate problems, and therefore cannot be more definitely forecast.

PREPARATION FOR THE SOCIAL PERIOD.

ELSIE A. WYGANT.

Once each week the children will entertain another group of children. They will plan for these social occasions, at times cooking some article for refreshment, or preparing games, or dramatizing stories.

The last week of the term they will give a party, for which preparation will begin at the opening of the school. The cooking for this occasion will be done by the children. Each child will make, also, a piece of pottery to be used at this party, and taken home at the end of the summer school.

In the pottery work each child will choose the kind of dish he wishes to make. If it is to hold liquid, he will experiment to find a way to make it non-porous. The class will try modeling, turning, and casting clay to get the best form, and they will experiment with various materials and methods of decoration, as paints, colored clay, colored glaze; impressing a pattern and inlaying shells (seen in some Mexican ware). Since time will not permit every child to try the many possible ways, each child will work out one suggestion and give the class the benefit of his experience. A trip will be taken to the Field Museum to see the ceramic exhibit as soon as the work is well begun; another to Burley & Co.'s store, before making the final decoration. Throughout the work the children will be shown specimens and learn the history of the well-known wares.

The general use of reading, writing, number, and art is stated above (3, 4, 5). Possible demands made by this work:

Reading.—(*a*) Receipts for cooking; (*b*) information in regard to the use of clay; (*c*) summary of experiments of the class as basis for choice in method of work; (*d*) direction for making cook books; (*e*) stories of potters and of famous wares.

Writing.—(*a*) Writing receipts in the cook book; (*b*) notes to take to parents in regard to trips to be taken; (*c*) record of individual experience with clay as help to the rest of the class.

Art.—(*a*) Plan of dish the child wishes to make; (*b*) plan of design to put upon the dish; (*c*) illustration of stories.

Number.—(*a*) Such notation as is needed in setting the table; (*b*) use of the inch and the fractions ½, ¼, and ⅛ of an inch in making the cook book; (*c*) liquid and dry measure used in the cooking.

Dramatic Art.—Telling and dramatizing stories for the social period.

Literature.—Story of Palissy; "Willow Ware," a poem; story of the Henry II. faience ware; stories of fairies, nature, and heroism.

FRENCH GAMES.

LORLEY A. ASHLÉMAN.

COMMENT METTEZ-VOUS LA TABLE?

Comment mettez-vous la table
A la mode, à la mode,
Comment mettez-vous la table
A la mode de chez nous?

Nous mettons la nappe comme ça
A la mode, à la mode,
Nous mettons la nappe comme ça
A la mode de chez nous.

Où met-on les assiettes
A la mode, à la mode,
Où met-on les assiettes
A la mode de chez nous?

Nous les mettons sur la nappe
A la mode, à la mode,
Nous les mettons sur la nappe
A la mode de chez nous.

Et couteau, cuiller, fourchette
A la mode, à la mode,
Et couteau, cuiller, fourchette
A la mode de chez nous?

Mettons les près des assiettes
A la mode, à la mode,
Mettons les près des assiettes
A la mode de chez nous.

Où met-on les jolies tasses
A la mode, à la mode,
Où met-on les jolies tasses
A la mode de chez nous?

Mettons les sur les sous-tasses
A la mode, à la mode,
Mettons les sur les sous-tasses
A la mode de chez nous.

Et le verre et la serviette
A la mode, à la mode,
Et le verre et la serviette
A la mode de chez nous ?

On les place à la gauche
A la mode, à la mode,
On les place à la gauche
A la mode de chez nous.

Un enfant chante le premier vers. Les autres enfants reprennent en chœur. Ils mettent les objets indiqués sur la table.

OLIVÉ BEAUVÉ.

On tire au sort à qui sera Olivé Beauvé et la Voisine. Le reste de la troupe se met en ligne et tout se prennent par la main, Olivé tenant le milieu. La Voisine, placée au bout de la chambre, s'avance directement vers Olivé en dansant et en chantant.

La Voisine. - Que tu as de jolies cérises !
Olivé Beauvé ;
Que tu as de jolies cérises !
Sur le pont fruitier.

Olivé Beauvé répond. Elles sont plus jolies que mes pommes,
Olivé Beauvé,
Elles sont plus jolies que mes pommes,
Sur le pont fruitier.

La Voisine. Veux-tu bien m'en donner une,
Olivé Beauvé,
Veux-tu bien m'en donner une,
Sur le pont fruitier ?

Olivé Beauvé. Je la donne, si tu l'attrapes,
Olivé Beauvé,
Je la donne, si tu l'attrapes,
Sur le pont fruitier.

A ses mots la Voisine s'élance pour saisir un des enfants qui forment les extrémités de la chaîne, mais Olivé et les joueurs tournent de manière à déjouer ses attaques. Si la Voisine réussit, elle emmène sa capture. Quand elle est parvenue à enlever tous les enfants d'Olivé, elle prend la place de celui-ci, qui devient la Voisine.

LE CORDONNIER.

Les joueurs forment un cercle en se tenant par les deux bouts d'un mouchoir.

Le cordonnier, choisi par le sort, se place au centre, assis par terre ou à genoux. Si c'est une cordonnière, on lui donne un tabouret.

Tout en simulant les opérations de son métier, le cordonnier dit avec volubilité :

Le cordonnier. "Allons, belles, belles, des souliers,
Que j'en essaie à vos jolis pieds."

Tout le monde, tournant et courant le plus vite possible, lui répond :

"Essayez ! essayez ! essayez !"

Alors, en étendant les bras, et sans quitter sa place, il tâche d'arrêter une pratique en saisissant le bas d'une robe ou la jambe d'un pantalon.

La personne atteinte donne un gage et devient cordonnier.

LE CHAT ET LES SOURIS.

Écouter trotter dans le mur
Les petites souris grises,
Nous les verrons, soyez en sûr,
En peu de temps surprises.

En voici une qui veut sortir,
Minet lui fait la chasse ;
Petite souris, tu vas mourir,
Oh, regagne vite ta place.

Les enfants représentent le mur.

FOURTH GRADE.

THE RELATION OF THE FARM TO THE FOOD SUPPLY OF THE CITY

GERTRUDE VAN HOESEN.

A TRIP to a large farm will be necessary immediately to find out: (1) what we get from the farm; (2) how the products are prepared before they are shipped; (3) what facilities the farmer must have in order to meet the demands of the city; (4) the care of domestic animals.

On their return, the children will make a special study of four of our principal foods — milk, butter, bread, and meat. This can be done only by means of practical experiments in the cooking-room. The children will examine milk, and make butter and bread for their luncheons.

Milk.—(1) How much butter can be made from a gallon of cream? Experiment. (2) How much milk is required to produce a gallon of cream? Experiment. (3) How much milk is required to produce a pound of butter? With the data obtained through experiments, the children will visit a creamery, or large dairy, to investigate this industry, and see how their data compare with those of the dairy.

The study of bread and meat will require excursions to bakeries, flour mills, and some departments of the Stock Yards.

All this work will necessitate a great deal of reading, writing, and number. Records made by the children will be published after the work has been finished.

TRANSPORTATION.

ELSIE A. WYGANT.

In connection with the farm work the children will consider the subject of transportation—means of getting the farm products to Chicago.

Two trips will be immediately necessary for this work: (1) To South Water street, to see the supplies brought daily in wagons from the surrounding truck farms, and to the docks at the foot of Michigan avenue. Here, if possible, we shall take a boat to get a view of the harbor and its adaptation to commerce. (2) To railroad yards and shops, where may be seen the different kinds of freight cars, both ready for use and in the various stages of construction; the casting of wheels; making of the parts of an engine and the putting together of these parts; switching station and freight depot. All this may be seen at the Rock Island railroad shops on Wentworth avenue and Fourty-seventh street.

Before the second trip is taken, the making of a train will be suggested, each child to construct one car, which, after summer school, is to be his personal property.

The problem of propelling the train will be presented to the class immediately, and if any child is sufficiently interested in mechanics to wish to work out this problem, help and the necessary material will be furnished him for his experiment. (This problem was worked out in electricity by a boy in the fourth grade during the past year. For details see ELEMENTARY SCHOOL

TEACHER, Vol. II, No. 10.) Should such attempts fail, a toy engine will be secured, so that opportunity may be given for play with the train before the close of the school.

In preparation for the trip to the railroad yards the class will divide itself into committees to be responsible for getting certain information necessary to the construction of the cars, as: dimensions of cars, axle, rail; how truck is made, doors made to slide, wheels adjusted to axle, etc. Upon our return, these data will be written out and put into the possession of the class.

The cars will be made to a scale, probably one-fourth inch to a foot. The children will be given books from the library, and working drawings of cars secured from a railroad shop. A complete plan of the car will be made by each one before he goes into the shop for work.

As soon as the planning of the cars is completed, the modes of transportation in other countries, as well as the evolution of our own system, will be considered. This work will be wholly based upon a visit to the Field Museum, where there is an excellent and extensive exhibit.

Literature.— In connection with this work, stories of engineers will be told and read. Because the engineer presents a type of hero upon whose accuracy and nerve depend such important results, these stories seem to be especially well adapted to the fourth grade, where love of accuracy and admiration of skill have become a marked characteristic of the children. Cy Warman's "Stories of Engineer Life," *McClure's*, 1900–1901; ".007" and "The Ship That Found Herself," in Kipling's *Day's Work;* "The Pony Engine," in Howells' *Christmas Every Day in the Year.*

Some of the demands for number, reading, and expression which this subject may make are given below:

Number.—To gain some conception of the immensity of the world of transportation, in which armies of men are at work, these problems will be presented: (1) building cars on a given scale; (2) capacity of cars; (3) weight of a train; (4) rate of speed; (5) rate of speed today compared with former means of transportation; (6) amount of coal used for a certain distance at a given speed; (7) wages of an engineer; (8) estimate cost of transportation of a given product from the farm under consideration to Chicago; (9) relation to selling price of that product in Chicago; (10) while at freight depot ascertain the number of cars loaded in a day; (11) estimate number of cars loaded in a day in Chicago.

Reading.—(1) To gain information about the things seen at the museum; (2) to gain information necessary to making the train; (3) stories.

Writing.—(1) Recording individual observations for use of class; (2) writing letters to railroad offices or employees for necessary information.

Art.— Drawing, painting, or modeling of things seen on the trips. Illustration of stories.

FRENCH.

LORLEY ADA ASHLÉMAN.

PROMENONS-NOUS DANS LES BOIS.

Une des personnes de la réunion fait le rôle du loup, une autre fait celui de la biche; toutes les autres, se tenant par la robe, font la queue de la biche.

Le loup va se cacher, et tout le monde chante plusieurs fois en se promenant:

Promenons-nous dans les bois
Pendant que le loup n'y est pas.

La biche [*parlé*]. Loup, loup, y es-tu?
Le loup. Non . . . .

Tout le monde. Promenons nous dans les bois
Pendant que le loup n'y est pas.

La biche [*parlé*]. Loup, loup, y es-tu?
Le loup. Oui . . . .
La biche. Sauvons-nous! . . . .
Le loup. Je suis loup, loup, qui te mangera.
La biche. Je suis bibiche qui me défendra.
Le loup. Défends ta queue!

L'enfant qui fait la biche empêche le loup de passer en étendant ses bras, et celui, ou celle qui fait le loup, tâche d'attraper la dernière personne; quand elle y a réussi, cette personne est séparée de la queue, et quand le loup les a toutes prises, le jeu fini.

OU EST LA MARGUÉRITE?

Où est la Marguérite?
Oh! gai! oh! gai! oh! gai!
Où est la Marguérite?
Oh! gai, franc cavalier.

Elle est dans son château,
Oh! gai, etc.

Les murs en sont trop hauts,
Oh! gai, etc.

J'en abattrai un' pierre,
Oh! gai, etc.

Un' pierre ne suffit pas,
Oh! gai, etc.

J'en abattrai deux pierres,
Oh! gai, etc.

Deux pierres ne suffisent pas,
Oh! gai, etc.

Qu'est-ce qu'il y a dedans?
Un petit panier de pain à manger.
Je vais chercher mon petit
Couteau pour le couper.

Les enfants se groupent autour d'une jeune fille à genoux, et lui tiennent son tablier levé au-dessus de la tête. Chaque fois que l'enfant chante: "Où est la Marguérite?" etc., dit: "J'en abattrai un' pierre," il essaye d'emmener une jeune fille du groupe, et ainsi de suite jusqu'à la dernière, qui tient toujours le tablier. Quand le franc chevalier dit: "chercher mon petit couteau," on lâche le tablier, et Marguérite s'enfuit, poursuivie par tout le monde.

IL ÉTAIT UN' BERGÈRE.

Il était un' bergère,
Et ron, ron, ron, petit patapon;
Il était un' bergère
Qui gardait ses moutons,
Ron, ron,
Qui gardait ses moutons.

Elle fit un fromage,
Et ron, ron, ron, petit patapon;
Elle fit un fromage
Du lait de ses moutons,
Ron, ron,
Du lait de ses moutons.

Son chaton la regarde,
Et ron, ron, ron, petit patapon;
Son chaton la regarde
Avec un air glouton,
Ron, ron,
Avec un air glouton.

Si tu y mets la patte,
Et ron, ron, ron, petit patapon,
Si tu y mets la patte
Tu auras du bâton,
Ron, ron,
Tu auras du bâton.

Il n'y mit pas la patte,
Et ron, ron, ron, petit patapon;
Il n'y mit pas la patte,
Il y mit le menton,
Ron, ron,
Il y mit le menton.

La bergère en colère,
Et ron, ron, ron, petit patapon,
La bergère en colère
A frappé son chaton.

Tous les enfants se mettent à la poursuite de celui qui joue "chaton."

LA BOULANGÈRE.

Cette ronde est fort animée et fort gaie. Elle est cependant d'une exécution très simple, et il n'est point nécessaire d'être danseur pour y prendre part. On commence par former un rond, et l'on tourne en chantant:

La boulangère a des écus,
Qui ne lui coûtent guère, [*bis*]
Elle en a, car je les ai vus.
Vive la boulangère aux écus,
Vive la boulangère!

Ici tout le monde s'arrête et se quitte les mains. Un couple (la boulangère et son soutien) se détache de la chaîne et entre dans le cercle. La boulangère s'avance ensuite en sautant vers le danseur qui était placé à sa

droite, de la main droite lui prend la main gauche, tourne avec lui, et revient faire de même avec son soutien, pendant que l'on chante le refrain:

J'ai vu la boulangère
Aux écus,
J'ai vu la boulangère.
Vive la boulangère aux écus,
Vive la boulangère!

La boulangère fait ainsi tourner tous ses cavaliers, en revenant chaque fois à son soutien. Toutes les filles doivent remplir successivement le rôle de la boulangère.

EIGHTH GRADE.

KATHARINE M. STILWELL AND JENNIE HALL.

CUBA.

THE idea upon which the work of the eighth grade will be founded is the industrial relations of countries. This basis has been chosen with the hope of making intelligent the interest that children have in current happenings.

It is planned to keep the work specific by studying the questions as illustrated in the conditions existing between Cuba and the United States. This makes necessary a consideration of recent congressional action in regard to sugar bounty, a study of Cuba's governmental history, of her industrial conditions, of the geography that influences industry, and of the scientific processes of sugar manufacture, together with some discussion of the general question of tariff. For convenience, this matter has been partitioned and labeled History, Geography, Science, Number, and Literature. These subjects are outlined below in slight detail.

History.—(1) Congressional action in regard to Cuban reciprocity. (2) Late Cuban war. Rapid story of interference of United States, with a brief study of military movements. (3) Spanish occupation: (*a*) story of discovery; (*b*) people found there; (*c*) Spanish characteristics (see literature); (*a*) method of government, in Spain, in Cuba; (*e*) feeling between Cuba and Spain; (*f*) story of Cuban rebellions. (4) Cuba at present: (*a*) racial constituents of people; (*b*) industries followed; industrial conditions as compared with those of Chicago, machinery, output, wages, exports and imports;

(*c*) Government. (5) General advantages of protection, reciprocity, free trade.

Geography.—(1) Cuban products. (*a*) Topographic picture: plains, uplands, mountains; (*b*) Climate; (*c*) Soil: genesis and evolution of island, geologic connection with other islands of Antilles. (2) Rival producers of sugar (mere location of them). (3) Commercial Cuba: (*a*) situation in regard to Mexico, Central America, North America; routes of travel; (*b*) harbors: situation, genesis; (*c*) Important cities: situation, industries, appearance, health.

Literature.— A mediæval Spanish story, yet to be chosen, possibly that of *The Cid.* Some study of the customs and materials of that time will be necessary for the sake of correct imagining. As an aid in this direction, the pupils will model in clay illustrative tiles, and will bake, glaze, and frame them, and take them home.

Science.—(1) Distribution of sugar in plants: (*a*) cane, beet, maple, palm; (*b*) familiar fruits and vegetables that contain sugar. Compare with sugar in milk. (2) Chief commercial sources of sugar, cane and beet. (3) Growth of cane and beet: (*a*) geographical distribution of each, and other possible regions of production; (*b*) Climate: its effect upon growth; study of temperature, moisture, length of season and amount of sunshine; (*c*) Soil: fertilization; (*d*) compare the climatic conditions necessary for growth with our climatic conditions in Chicago (use pupils' records); (*e*) growth of sugar beet and sugar cane in the school garden. (4) Process of obtaining sugar from the cane and from the beet: (*a*) extraction of juice: pressure, diffusion; (*b*) clarifying; (*c*) evaporation and crystallization; (*d*) methods of separating the syrup; (*e*) refining: purifying, by use of albumen, decolorizing with bone-black; these processes will be illustrated by experiment. (5) Uses of sugar: (*a*) as a food; (*b*) sugar cookery. (6) Fermentation of sugar: (*a*) yeast as a cause of fermentation; (*b*) products of fermentation and their uses: alcohol, carbon dioxide.

REFERENCES: Thorp, *Outlines of Industrial Chemistry;* Storer and Lindsay, *Elementary Manual of Chemistry;* Halliburton, *Essentials of Chemical Physiology;* Johnston, *Chemistry of Common Life;* Jackman, *Nature Study; Universal Encyclopedia.*

Number.— Number will be used, not separate from the history, geography, and nature study, but at the time when it will aid in making definite images. It will consist of such problems as occur in measuring the slant and distribution of sunshine, by the use of the skiameter; determining the daily amount of sunshine; measurement of the amount of water in a given rainfall.

As an aid in understanding reciprocity, problems *similar* to the following may be used:

1. Compare the values of the principal products of Cuba. (*Daily News Almanac.*)

2. Find the cost to the planter of producing raw sugar. (Data obtainable from official reports.)

3. What amount is imported into the United States? Find the cost of transportation.

4. What is the import duty on Cuban sugar?

5. The commercial importance of Cuban sugar in United States markets. Compare with (*a*) domestic cane sugar; (*b*) domestic beet sugar; (*c*) total imported sugar.

6. Find the cost of the production of beet sugar. (For data, see *Special Report of the Department of Agriculture*, 1897.)

7. Compare the value of domestic beet sugar with imported beet sugar.

8. Compare the cost of producing beet sugar with the cost of producing cane sugar. Can these sugars compete in our markets on the same basis? Validity of arguments for the protection of beet sugar.

9. What determines the market price of sugar? (*a*) Compare the tariff on Cuban sugar with that on sugar from other countries; (*b*) differential tariff; reciprocity.

10. Compare (*a*) the sugar areas of the world; (*b*) amount of sugar consumed by different countries; (*c*) amount produced by different countries.

PROGRAM.

	Monday.	Tuesday.	Wednesday.	Thursday.	Friday.
1:30–2:10..	Hall	Hall	Hall	Hall	Hall
2:10–2:45..	Hall	Hall	Hall	Hall	Hall
2:45–2:55..	M u s i c	o r	g y m	n a s t i c s	
2:55–3:30..	Stilwell	Stilwell	Stilwell	Stilwell	Stilwell

NOTE.— Lessons in clay-modeling, manual training, and experiments in science, will be continued through two periods if necessary, the teachers exchanging periods to make up the omitted lesson.

ANNOUNCEMENTS OF THE UNIVERSITY OF CHICAGO PRESS.

THE University of Chicago Press announces the appearance of two preprints from the University of Chicago Decennial Publications, which have been planned in connection with the celebration of the completion of the first ten years of the corporate existence of the institution. In general, the series will set forth and exemplify the material and intellectual growth of the University during its first decade, and will consist of ten volumes, which are now in an advanced stage of preparation. The first two volumes will contain the President's Report to the Board of Trustees on matters of administration. The last eight volumes will consist of separate articles by representative members of the faculty, containing the results of original research in many fields. The lines of study represented in general will be Philosophy and Education, the Political and Social Sciences, History, the Languages and Literatures of the Old and New Testaments, Theology and Church History, the Classical Languages and Archæology, Sanskrit and Comparative Philology, the Romance and Germanic Languages, English, Mathematics, Astronomy, and Astrophysics, and the Physical and Biological Sciences. The documents now ready are *The Velocity of Light*, by Professor Albert A. Michelson (net 25c.) and *On the Text of Chaucer's Parlement of Foules*, by Professor Eleanor Prescott Hammond (net 50c.). Announcement is made of several more extensive contributions in octavo form. Among these may be mentioned Wager's *The Life and Repentaunce of Marie Magdalene*, an old English morality play, edited, with an introduction and notes, by Professor Frederic Ives Carpenter; *Osmotic Pressure in Plants*, a book which will supply the long-felt want by teachers for a treatise on osmotic phenomena adapted to the use of students whose knowledge of chemistry and physics is only elementary; *The Poems of Anne Finch, Countess of Winchelsea*, by Professor Myra Reynolds; *Calculus of Variations*, by Professor Oskar Bolza; and *Light Waves and their Uses*, by Professor Albert A. Michelson.

The University of Chicago Press announces the appearance of No. 6 of *Contributions to Education*, entitled *Some Types of Modern Educational Theory*, by Professor Ella Flagg Young. This contribution does for the various modes of educational reform already in vogue what is done for the educational situation as a whole in the third number of the series, *The Educational Situation*, by Professor John Dewey. Various types in educational standpoints and methods are set forth with reference to fundamental psychological and ethical principles. The paper will be found of great assistance, not only to teachers, but to all interested in finding their way amid the apparent confusion of contemporary efforts toward educational reform. No. 5, entitled *The Child and the Curriculum*, by Professor Dewey, completing the series, will be ready about July 1. The preceding numbers of the series which have recently appeared are *Isolation in the School*, by Professor Young; *Psychology and Social Practice*, by Professor Dewey; *The Educational Situation*, by Professor Dewey; and *Ethics in the School*, by Professor Young. The series, 12mo, net $1.50; postpaid, $1.67. THE UNIVERSITY OF CHICAGO PRESS, Chicago, Illinois.